DG-BG4300NU

300Mbps Wireless ADSL2/2+

Broadband Router with USB port

User Manual

V2.0

2014-01-15

As our products undergo continuous development the specifications are subject to change without prior notice

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Safety

This equipment is designed with the utmost care for the safety of those who install and use it. However, special attention must be paid to the dangers of electric shock and static electricity when working with electrical equipment. All guidelines of this and of the computer manufacturer must therefore be allowed at all times to ensure the safe use of the equipment.

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1 Product Information

Thank you for purchasing DG-BG4300NU 300Mbps Wireless ADSL2/2+ Broadband Router with USB port! This router is the best choice for Small office / Home office users, all computers and network devices can share a single Internet connection at high speed. Easy Installation wizard provided with this router is designed to setup an Internet connection in a very short time by accessing the web configuration of the router. With its wireless speed up to 300Mbps users can experience uninterrupted Internet and multimedia access.

Other features of this wireless broadband router include:

- High Internet Access throughput. Downstream up to 24 Mbps and Upstream up to 1 Mbps.
- Wireless speed up to 300Mbps.
- Robust WLAN Security.
- Supports URL blocking & Firewall.
- Dedicated WPS and WLAN push button.
- Dynamic DNS and VPN Pass through support.
- USB2.0 Port for 3G Dongle & Mass Storage.
- Allows multiple users to share a single ADSL internet connection.
- Access private LAN servers from the Internet.
- Four wired LAN ports (10/100M) and one WAN port (RJ-11).
- Works with IEEE 802.11b/g/n wireless LAN devices.
- Supports IPv6.
- Supports DHCP (Server/Client) for easy IP-address setup.

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1.1 Safety Precautions

In order to keep the safety of users and your properties, please follow the safety instructions as mentioned below:

1. This router is designed for indoor use only; **DO NOT** place this router outdoor.
2. **DO NOT** place this router close to a hot or humid area, like kitchen or bathroom. Also, **DO NOT** leave this router in the car during summer.
3. **DO NOT** pull any connected cable with force; disconnect it from the router first.
4. If you want to place this Router at a height or mount on the wall, please make sure it is firmly secured. Falling from a height would damage the router and its accessories and warranty will be void.
5. Accessories of this router, like antenna and power supply, are dangerous to small children. **KEEP THIS ROUTER OUT OF REACH OF CHILDREN.**
6. The Router will get heated up when used for a long time (This is normal and is not a malfunction). **DO NOT** put this Router on paper, cloth, or other flammable materials.
7. There's no user-serviceable part inside the router. If you find that the router is not working properly, please contact your dealer of purchase and ask for help. **DO NOT** disassemble the router, warranty will be void.
8. If the router falls into water when it's powered, **DO NOT** use your hands to pick it up. Switch the electrical power off before you do anything, or contact an experienced electrical technician for help.
9. If you smell something strange, or even see some smoke coming out from the router or power supply, remove the power supply or switch the electrical power off immediately, and call the dealer of purchase for help.

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1.2 System Requirements

The following system requirements are recommended:

- Notebook or desktop PC with network adapter (wired/WLAN)
- Windows 98/Me/2000/XP/Vista
- Web browser
- AC power socket (100 – 240V, 50/60Hz)

1.3 Package contents

Before you start using this router, please check if there's anything missing in the package, and contact your dealer of purchase to claim for missing items:

- DG-BG4300NU ADSL 2/2+ Broadband Router With 3G
- POTS splitter
- AC power adapter
- Quick Installation Guide
- Installation Guide CD (includes user manual, QIG & Utility)
- Patch cord (1 No.)
- RJ-11 cables (2 Nos.)

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1.4 LEDs and Interfaces

Top Panel

The following table describes the LEDs of the device.

LEDs	Color	Status	Description
Power	Red	On	Device is initializing or initialization has failed.
		Off	Power is off.
	Green	On	Power is on.
DSL	Green	On	Physical link is up
		Blinking	ADSL handshaking process is on or ADSL line unplugged.
Internet	Green	On	Internet connection is established.
		Blinking	Data is being transmitted or received.
		Off	Device is not connected to internet.
	Red	On	PPPoE/PPPoA username-password not set or wrong.

LAN 1/2/3/4	Green	On	PC is connected to the LAN port
		Off	PC is unplugged/not connected.
USB	Green	On	USB device is plugged.
		Off	USB devidce is not plugged.
WLAN	Green	On	Wireless is enabled.
		Blinking	Data is being transmitted or received.
		Off	Wireless is not enabled.
WPS	Green	Blinking	WPS negotiation is enabled waiting for the clients.
		Off	WPS negotiation is not enabled on the device.

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Rear Panel

The following table describes the interfaces of the device.

Item	Description
Antennas	Two 5dBi fixed diplole antennas.
DSL	RJ-11 interface, for connecting to the ADSL interface or a splitter using a telephone cable.
LAN4/3/2/1	RJ-45 interface, for connecting to the Ethernet interface of a computer or the Ethernet devices through an Ethernet cable/LAN Cable.
Power	Power interface, for connecting to the power adapter.
ON / OFF	Power switch, to power on or power off the device.

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Side Panel

Item	Description
USB	To connect USB 3G Dongle or USB Mass Storage.
Reset	Reset to the factory default configuration. Keep the device powered on, and insert a pin into the reset hole for 3 seconds, then release it. The device will reset to the factory default configuration.

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2 Hardware Installation

Step 1 Connect the ADSL interface of the device and the router interface of the splitter through a telephone cable. Connect the phone to the Phone interface of the splitter through a telephone cable. Connect the incoming line to the Line interface of the splitter.

The splitter has three interfaces:

- Line: Connect to a wall phone jack (RJ-11 jack).
- Modem: Connect to the ADSL jack of the device.
- Phone: Connect to a telephone set.

Step 2 Connect the LAN interface of the device to the network card of the PC through an Ethernet cable (MDI/MDIX).

Note: Use twisted-pair cables to connect to the hub or switch.

Step 3 Plug one end of the power adapter to the wall outlet and the other end to the Power interface of the device.

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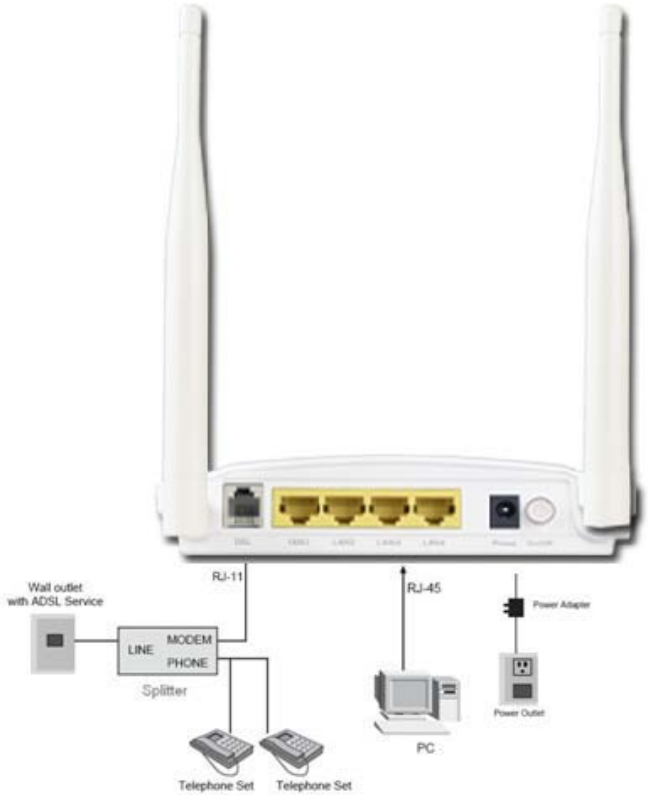
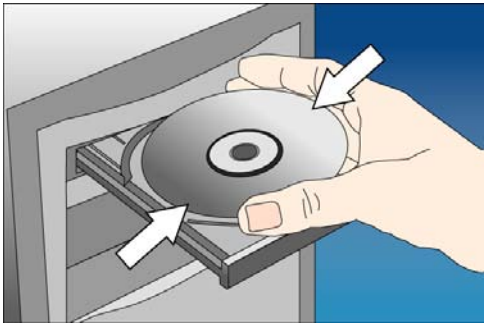
The following figure shows the application diagram for the connection of the router, PC, splitter and the telephone sets.



3 Software Installation

- Insert the Setup CD into your CD-ROM drive of notebook/desktop computer.



- Explore the CD and execute the "**DG-BG4300NU.EXE**" file. Screen given below will be displayed. Click '**Start'** to continue.

DIGISOL
QUICK SETUP WIZARD
WELCOME TO QUICK SETUP WIZARD
To run the utility and configure this router you just require a computer, with a LAN card set to obtain an IP address automatically. If there is any difficulty, then please refer the User Manual.
Note :
To use this WIZARD,the Router configuration must be factory defaults or reset if required.
DG-BG4300NU
WIRELESS ADSL2/2+ BROADBAND ROUTER
User manual
QIG
Start
Exit
www.digisol.com
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- Connect the ADSL line and the phone line to the router. Click '**Next**'.

QUICK SETUP WIZARD
Connection : Splitter
INTERNET
1 Connect ADSL Line from ISP to the Line port on the POTS Splitter
2 Connect the Modem port on the POTS Splitter to Line interface on the router
3 Connect the Phone port on POTS Splitter to the Phone instrument
Line
Pots Splitter
Phone
Modem
DG-BG4300NU
WIRELESS ADSL2/2+ BROADBAND ROUTER
Back
Next
Exit
www.digisol.com
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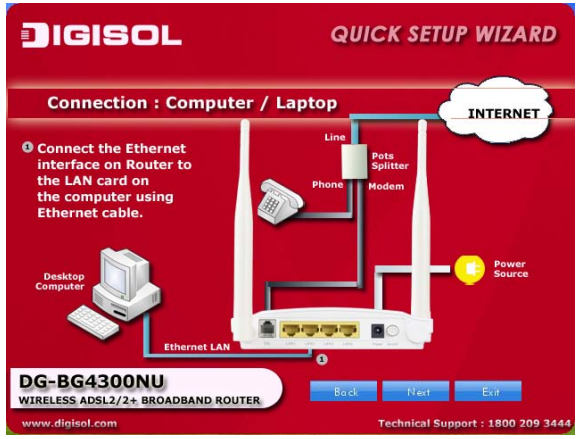
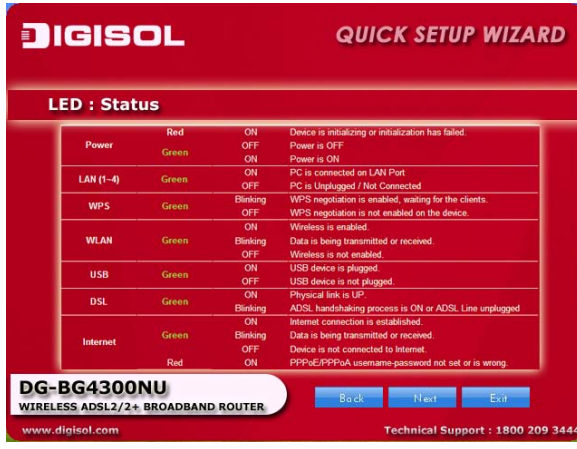
- Connect the power adapter to the AC Mains and the other end to the power interface on the router. Push the power button on the router to power up the device.Click '**Next**'.

- Connect the Ethernet interface on the router to the LAN card on the computer using the Ethernet cable. Click '**Next**'.



- After powering up the router, verify the status of the LED indicators on the front panel of the router. Click '**Next**'.


QUICK SETUP WIZARD
LED : Status
Power Red ON Device is initializing or initialization has failed.
Green OFF Power is OFF
ON Power is ON
LAN (1~4) Green ON PC is connected on LAN Port
OFF PC is Unplugged / Not Connected
WPS Green Blinking WPS negotiation is enabled, waiting for the clients.
OFF WPS negotiation is not enabled on the device.
WLAN Green ON Wireless is enabled.
Blinking Data is being transmitted or received.
OFF Wireless is not enabled.
USB Green ON USB device is plugged.
OFF USB device is not plugged.
DSL Green ON Physical link is UP.
Blinking ADSL handshaking process is ON or ADSL Line unplugged
Internet Green ON Internet connection is established.
Blinking Data is being transmitted or received.
OFF Device is not connected to Internet.
Red ON PPPoE/PPPoA username-password not set or is wrong.
DG-BG4300NU
WIRELESS ADSL2/2+ BROADBAND ROUTER
Back
Next
Exit
www.digisol.com
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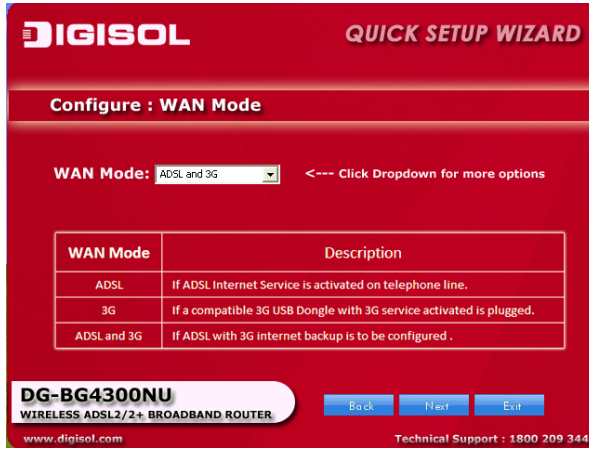
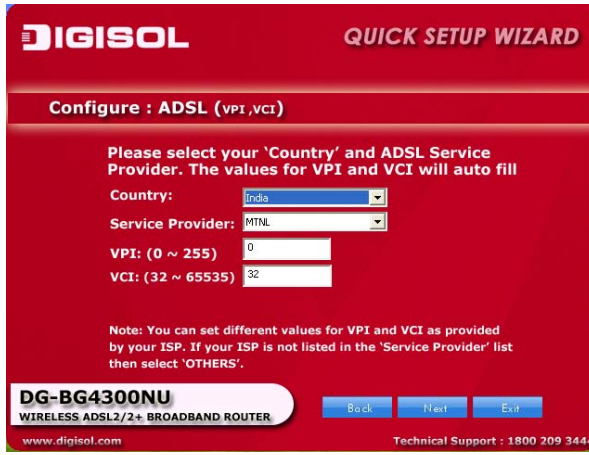
- Below as shown please select the "**WAN Mode**" type.

  Suppose you select "**ADSL and 3G**" option to setup 3G failover click "**Next**".



- Please select your '**Country'** and ADSL service provider. VPI and VCI values will auto fill.


QUICK SETUP WIZARD
Configure : ADSL (VPI ,VCI)
Please select your 'Country' and ADSL Service Provider. The values for VPI and VCI will auto fill
Country:
India
Service Provider:
MTNL
VPI: (0 ~ 255)
0
VCI: (32 ~ 65535)
32
Note: You can set different values for VPI and VCI as provided by your ISP. If your ISP is not listed in the 'Service Provider' list then select 'OTHERS'.
DG-BG4300NU
WIRELESS ADSL2/2+ BROADBAND ROUTER
Back
Next
Exit
www.digisol.com
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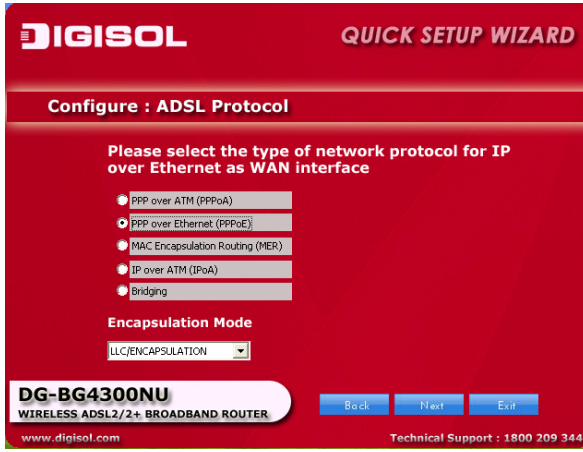
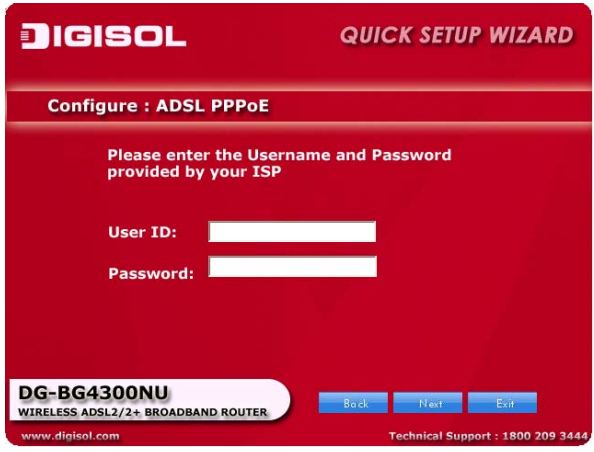
- Select the network protocol for WAN interface. Click '**Next**'.



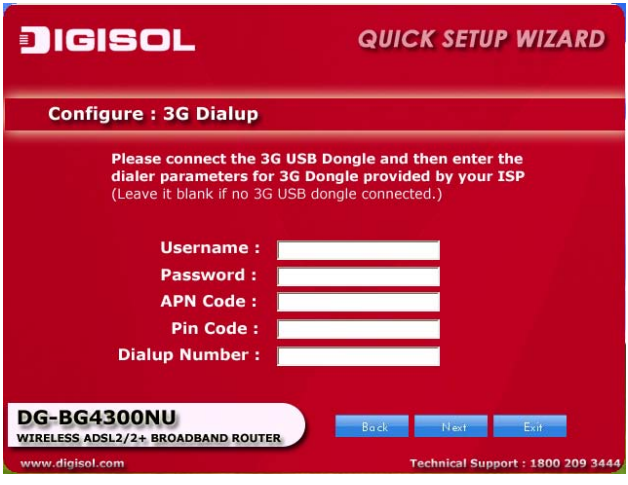
All the utility installation steps till here are the common steps to be followed for the modes.

Following are the steps for configuring ***PPPoE connection***:

- Enter the username and password provided by your ISP. Click '**Next**'.



- Configure the 3G Dialup parameters and click "**Next"**



- Configure a wireless name (SSID) for your router. Click '**Next**'.

- Configure the wireless security. Click '**Next**'.

QUICK SETUP WIZARD
Configure : Wireless Security
Wireless security helps to protect your wireless network from hackers and malicious users. WPA Pre-Shared Key is the most secured encryption for general users. Please enable the WPA Pre-Shared key and enter a 8 to 63 characters (alphanumeric, case sensitive) key in the given field below
Security Mode:
WPA2-Mixed
Pre-Shared Key:
DG-BG4300NU
WIRELESS ADSL2/2+ BROADBAND ROUTER
Back
Next
Exit
www.digisol.com
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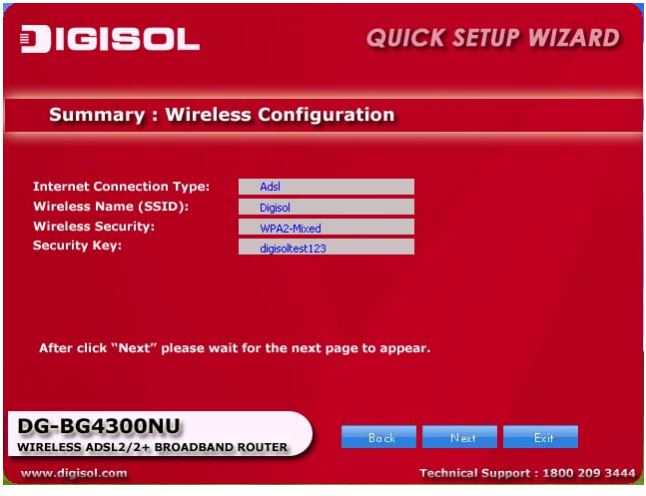
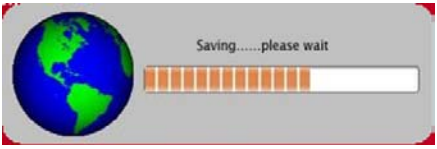
- The next screen is a summary of the wireless settings of the router.



- Click on '**Next**', the following screen will appear.



- Once the connection is established, the router connection status will appear.

DIGISOL
QUICK SETUP WIZARD
Status : WAN
WAN Link Type
WAN IP
Default Gateway
Primary DNS
Secondary DNS
Note: If the IP Address appears 0.0.0.0, then click 'Refresh' for retrying the connection to Internet. If a valid IP address appears (other than 0.0.0.0) then click 'Finish' button to complete the setup.
Please reboot the Router after click "Finish" (Recommended).
DG-BG4300NU
WIRELESS ADSL2/2+ BROADBAND ROUTER
Refresh
Finish
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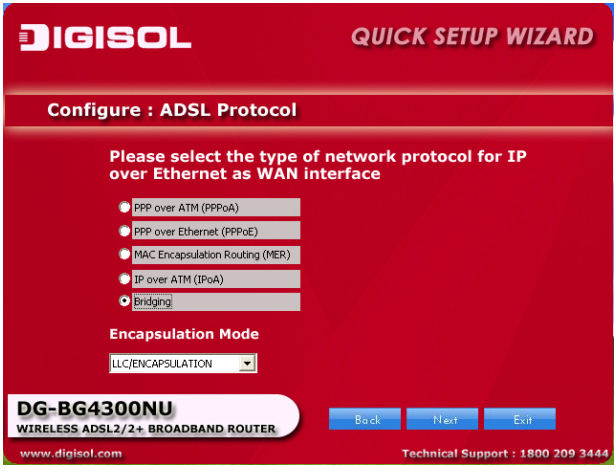
Bridging Mode:

- To configure the router in the bridge mode select "**Bridging**" option. Click '**Next**'.



- Configure a wireless name (SSID) for your router. Click '**Next**'.

- Configure the wireless security.

QUICK SETUP WIZARD
Configure : Wireless Security
Wireless security helps to protect your wireless network from hackers and malicious users. WPA Pre-Shared Key is the most secured encryption for general users. Please enable the WPA Pre-Shared key and enter a 8 to 63 characters (alphanumeric, case sensitive) key in the given field below
Security Mode:
WPA2-Mixed
Pre-Shared Key:
DG-BG4300NU
WIRELESS ADSL2/2+ BROADBAND ROUTER
Back
Next
Exit
www.digisol.com
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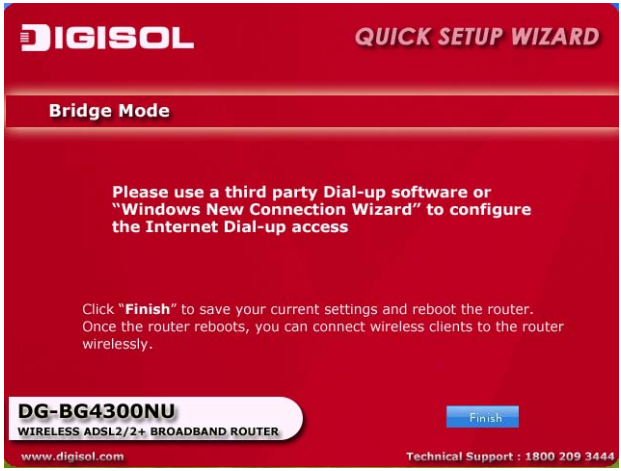
- Click on '**Next**' the following screen will appear.


QUICK SETUP WIZARD
Bridge Mode
Please use a third party Dial-up software or "Windows New Connection Wizard" to configure the Internet Dial-up access
Click "Finish" to save your current settings and reboot the router.
Once the router reboots, you can connect wireless clients to the router wirelessly.
DG-BG4300NU
WIRELESS ADSL2/2+ BROADBAND ROUTER
Finish
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- Click on '**Finish**' to complete the configuration of the router in Bridge mode.

4 About the Web Configuration

This section describes how to configure the router by using the Web-based configuration utility.

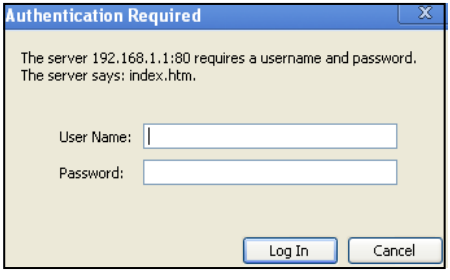
4.1 Access the Router

The following is the detailed description of accessing the router for the first time.

Step 1 Open the Internet Explorer (IE) browser and enter http://192.168.1.1.

Step 2 In the Login page that is displayed, enter the username and password.

- The username and password of the super user are admin and admin.
- The username and password of the common user are user and user.



If you log in as a super user, the page shown in the following figure appears. You can check, configure and modify all the settings.

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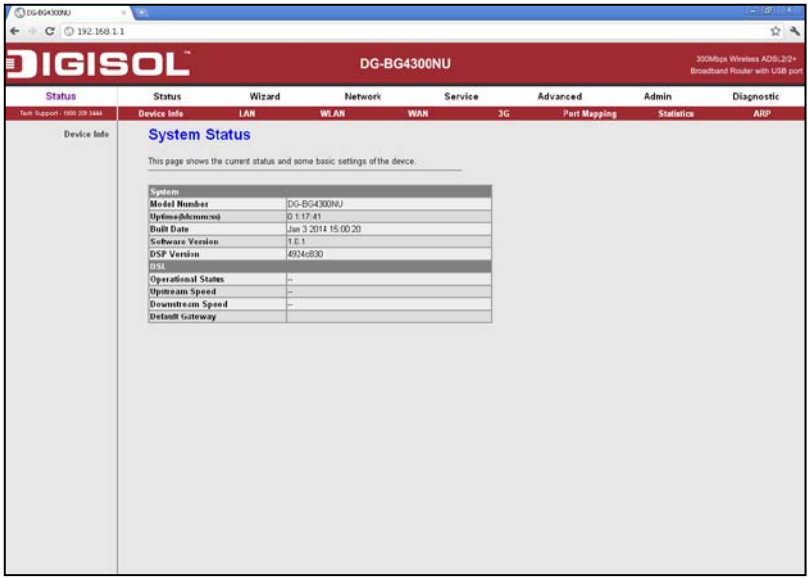


If you log in as a common user, you can check the status of the router, but cannot configure/modify most of the settings.

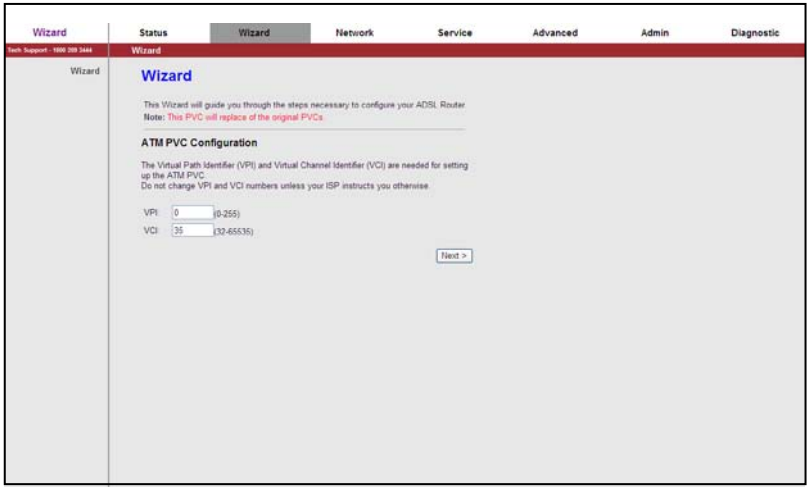
Note:

In the Web configuration page, you can click Apply Changes to save the settings.

4.2 Wizard

When subscribing to a broadband service, you should be aware of the method by which you are connected to the Internet. Your physical WAN device can be PPP, ADSL or both. The technical information about the properties of your Internet connection is provided by your Internet Service Provider (ISP). For example, your ISP should inform you whether you are connected to the Internet using a static or dynamic IP address and the protocol that you use to communicate on the Internet.

In the navigation bar, choose Wizard. The page shown in the following figure appears. The Wizard page guides fast and accurate configuration of the Internet connection and other important parameters. The following sections describe these various configuration parameters. Whether you configure these parameters or use the default ones, click **NEXT** to enable your Internet connection.


Wizard
Status
Wizard
Network
Service
Advanced
Admin
Diagnostic
Wizard
Wizard
Wizard
This Wizard will guide you through the steps necessary to configure your ADSL Router.
Note: This PVC will replace of the original PVCs.
ATM PVC Configuration
The Virtual Path Identifier (VPI) and Virtual Channel Identifier (VCI) are needed for setting up the ATM PVC.
Do not change VPI and VCI numbers unless your ISP instructs you otherwise.
VPI: 0 (0-255)
VCI: 35 (32-65535)
Next >

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The following table describes the parameters in this page:

Field	Description
VPI	Virtual path identifier (VPI) is the virtual path between two points in an ATM network. Its valid value is in the range of 0 to 255. Enter the correct VPI provided by your ISP. By default, VPI is set to 0.
VCI	Virtual channel identifier (VCI) is the virtual channel between two points in an ATM network. Its valid value is in the range of 32 to 65535. (0 to 31 is reserved for local management of ATM traffic) Enter the correct VCI provided by your ISP. By default, VCI is set to 35.

After the setting is done, click **Next**, the page as shown in the following figure appears.

There are five WAN connection types: PPP over ATM (PPPoA), PPP over Ethernet (PPPoE), 1483 MER, 1483 Routed and 1483 Bridged. The below mentioned topics describe the modes.

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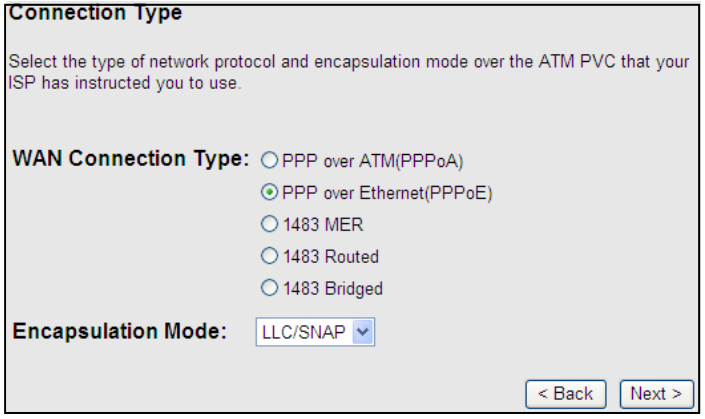
PPPoE/PPPoA

In the Connection Type page, set the WAN connection type to PPP over Ethernet (PPPoE), the encapsulation mode to LLC/SNAP.


Connection Type
Select the type of network protocol and encapsulation mode over the ATM PVC that your ISP has instructed you to use.
WAN Connection Type:
PPP over ATM(PPPoA)
PPP over Ethernet(PPPoE)
1483 MER
1483 Routed
1483 Bridged
Encapsulation Mode:
LLC/SNAP
< Back
Next >

The following table describes the parameters in this page:

Field	Description
WAN Connection Type	There are five WAN connection types: PPP over ATM (PPPoA), PPP over Ethernet (PPPoE), 1483 MER, 1483 Routed and 1483 Bridged. In this example, the connection type is set to PPPoE.
Encapsulation Mode	You can select LLC/SNAP or VC-Mux. In this example, the encapsulation mode is set to LLC/SNAP.

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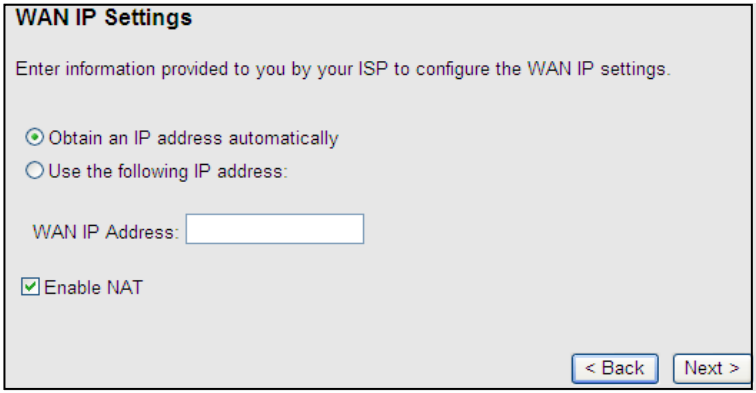
After the settings are done, click **Next**, the page as shown in the following figure appears.


WAN IP Settings
Enter information provided to you by your ISP to configure the WAN IP settings.
Obtain an IP address automatically
Use the following IP address:
WAN IP Address:
Enable NAT
< Back
Next >

The following table describes the parameters in this page:

Field	Description
Obtain an IP address automatically	Select it, DHCP assigns the IP address for PPPoE connection.
Use the following IP address	Select it, you need to enter the IP address for PPPoE connection, which is provided by your ISP.
WAN IP Address	Enter the WAN IP address here.
Enable NAT	Select the checkbox to enable network address translation (NAT). If you do not select it and you want to access the Internet normally, you must add a route on the uplink equipment. Otherwise, the access to the Internet fails. Normally, it is required to enable NAT.

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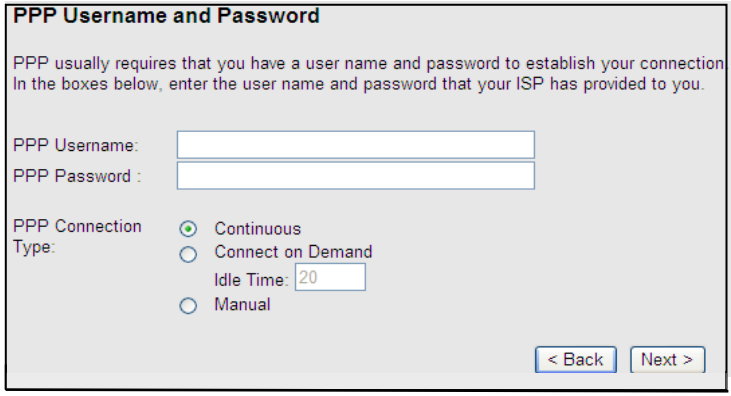
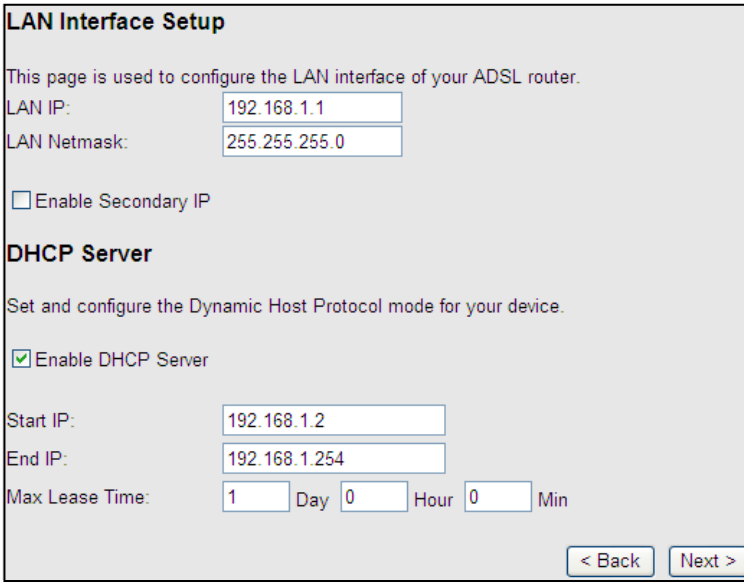
After the settings are done, click **Next**, the page as shown in the following figure appears.


PPP Username and Password
PPP usually requires that you have a user name and password to establish your connection. In the boxes below, enter the user name and password that your ISP has provided to you.
PPP Username:
PPP Password :
PPP Connection Type:
Continuous
Connect on Demand
Idle Time: 20
Manual
< Back
Next >

The following table describes the parameters in this page:

Field	Description
PPP Username	Enter the username for PPPoE dial-up, which is provided by your ISP.
PPP Password	Enter the password for PPPoE dial-up, which is provided by your ISP.
PPP Connection Type	You can select Continuous, Connect on Demand, or Manual. • **Continuous:** After dial-up is successful, PPPoE connection is always on-line, no matter whether the data is being transmitted or not. It is recommended to select it. • **Connect on Demand:** After dial-up is successful, within the preset idle time, no data is being transmitted; the router automatically disconnects the PPPoE connection. In this case, you need to enter the idle time. • **Manual:** Select it, you need to dial up and disconnect the connection mannually.

After the settings are done, click **Next**, the page as shown in the following figure appears.

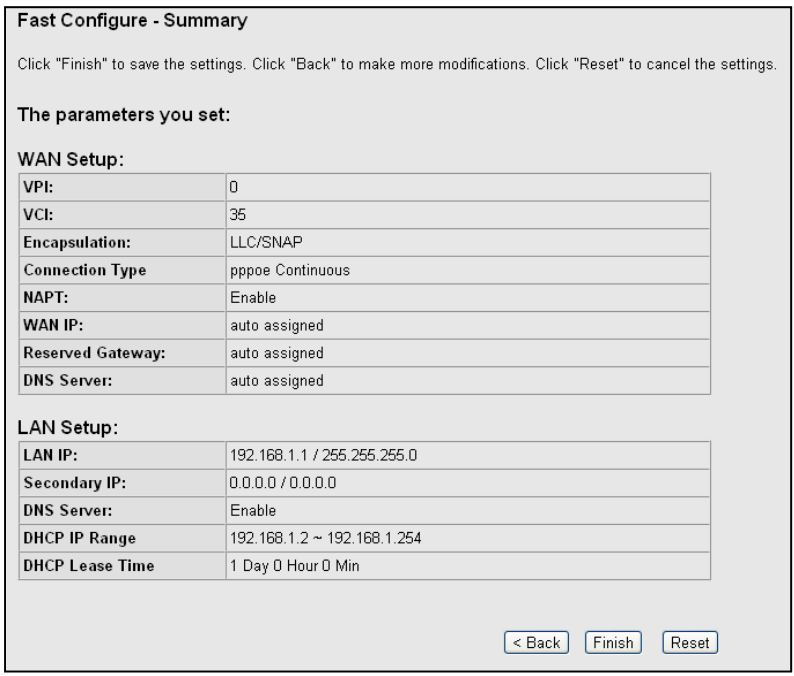


The following table describes the parameters in this page:

Field	Description
LAN Interface Setup	
LAN IP	Enter the IP address of LAN interface. Its valid value is in the range of 192.168.1.1 to 192.168.1.254. The default IP address is 192.168.1.1.
LAN Netmask	Enter the subnet mask of LAN interface. Its valid value is in the range of 255.255.255.0 to 255.255.255.254.
Enable Secondary IP	Select the checkbox to enable the secondary LAN IP. The two LAN IP addresses must be in different networks.
DHCP Server	

Enable DHCP Server	Select the checkbox to enable DHCP server.
Start IP	Enter the start IP address that the DHCP sever assigns.
End IP	Enter the end IP address that the DHCP server assigns.
Max Lease Time	The lease time determines the period that the PCs retain the assigned IP addresses before the IP addresses change.

After the settings are done, click **Next**, the page as shown in the following figure appears.



Fast Configure - Summary

Click "Finish" to save the settings. Click "Back" to make more modifications. Click "Reset" to cancel the settings.

The parameters you set:

WAN Setup:

VPI:	0
VCI:	35
Encapsulation:	LLC/SNAP
Connection Type	pppoe Continuous
NAPT:	Enable
WAN IP:	auto assigned
Reserved Gateway:	auto assigned
DNS Server:	auto assigned

LAN Setup:

LAN IP:	192.168.1.1 / 255.255.255.0
Secondary IP:	0.0.0.0 / 0.0.0.0
DNS Server:	Enable
DHCP IP Range	192.168.1.2 ~ 192.168.1.254
DHCP Lease Time	1 Day 0 Hour 0 Min

< Back | Finish | Reset

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Click **BACK** to modify the settings.

Click **FINISH** to save the settings.

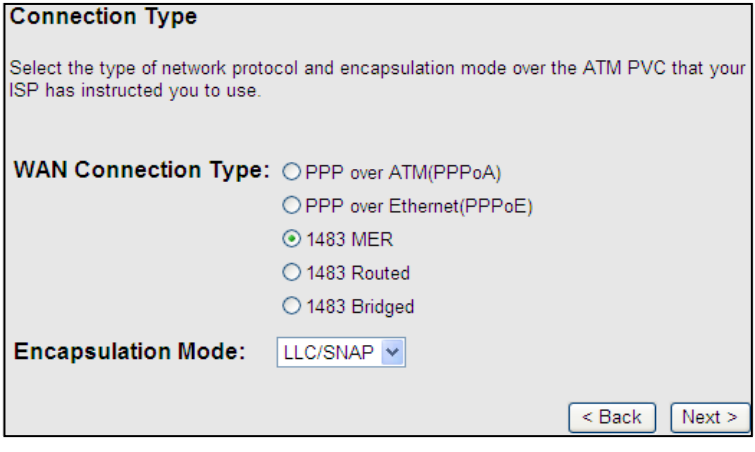
Click **RESET** to cancel the settings.

Note:

If the WAN connection type is set to PPPoA, the parameters of the WAN connection type are the same as that of PPPoE.

1483 MER / 1483 Routed

In the Connection Type page, set the WAN connection type to 1483 MER, the encapsulation mode to LLC/SNAP.


Connection Type
Select the type of network protocol and encapsulation mode over the ATM PVC that your ISP has instructed you to use.
WAN Connection Type:
PPP over ATM(PPPoA)
PPP over Ethernet(PPPoE)
1483 MER
1483 Routed
1483 Bridged
Encapsulation Mode:
LLC/SNAP
< Back
Next >

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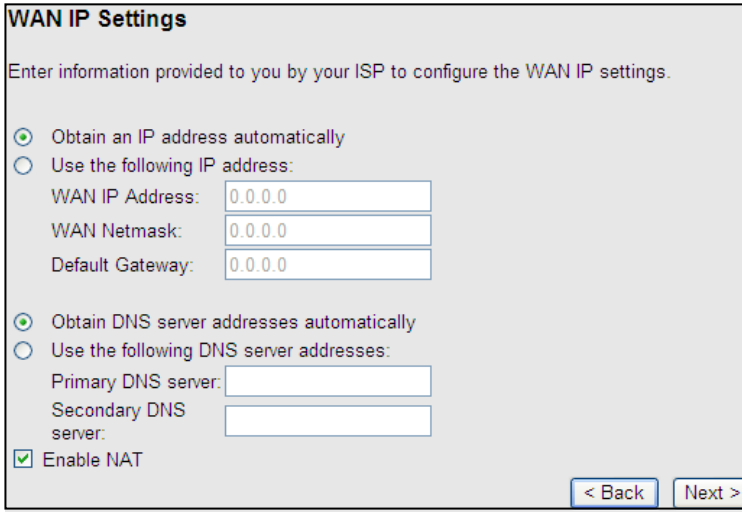
After the settings are done, click **Next**, the page as shown in the following figure appears.



The following table describes the parameters in this page:

Field	Description
Obtain an IP address automatically	Select it, DHCP automatically assigns the IP address for WAN connection.
Use the following IP address	Select it, you need to manually enter the IP address, subnet mask and default gateway for WAN connection, which are provided by your ISP.
Obtain DNS server addresses automatically	Select it, DHCP automatically assigns DNS server address.
Use the following DNS server addresses	Select it, you need to manually enter the primary DNS server address and secondary DNS server address.
Enable NAT	Select it to enable network address translation

	(NAT). If you do not select it and you want to access the Internet normally, you must add a route on the uplink equipment. Otherwise, the access to the Internet fails. Normally, it is required to enable NAT.

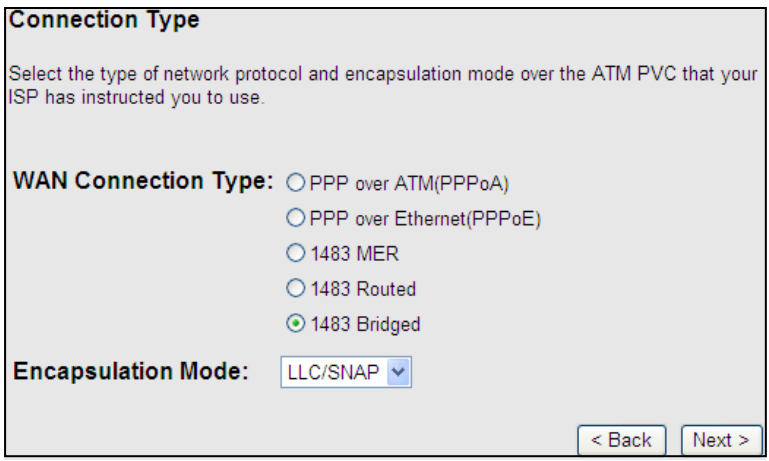
For subsequent configuration, refer to the description in the above section PPPoE/PPPoA.

Note:

If the WAN connection type is set to 1483 Routed, the parameters of the WAN connection type are the same as that of 1483 MER. For the parameters in these pages, refer to the parameter description of 1483 MER.

1483 Bridged

In the Connection Type page, set the WAN connection type to 1483 Bridged, the encapsulation mode to LLC/SNAP.


Connection Type
Select the type of network protocol and encapsulation mode over the ATM PVC that your ISP has instructed you to use.
WAN Connection Type:
PPP over ATM(PPPoA)
PPP over Ethernet(PPPoE)
1483 MER
1483 Routed
1483 Bridged
Encapsulation Mode:
LLC/SNAP
< Back
Next >

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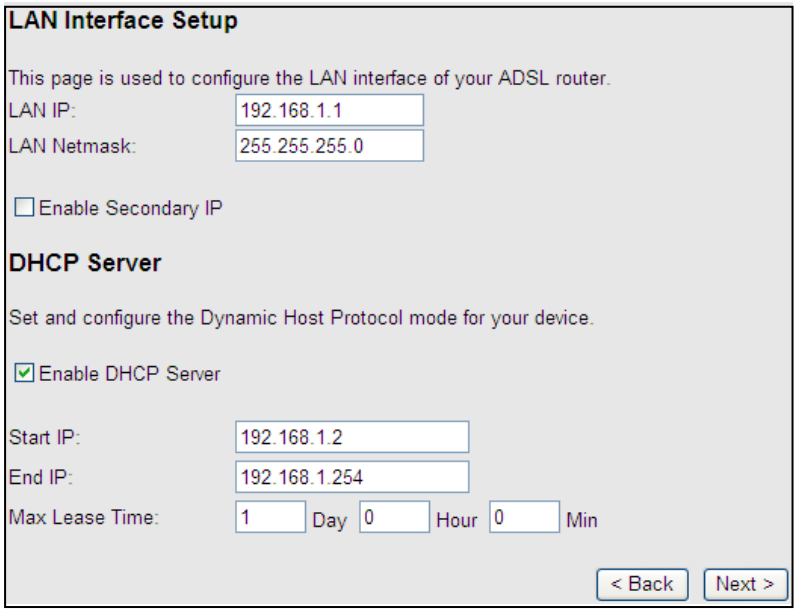
After the settings are done, click **Next**, the page as shown in the following figure appears.



The following table describes the parameters in this page:

Field	Description
LAN Interface Setup	
LAN IP	Enter the IP address of LAN interface. Its valid value is in the range of 192.168.1.1 to 192.168.255.254. The default IP address is 192.168.1.1.
LAN Netmask	Enter the subnet mask of LAN interface. Its valid value is in the range of 255.255.0.0 to 255.255.255.254.
Enable Secondary IP	Select the checkbox to enable the secondary LAN IP. The

	two LAN IP addresses must be in the different network.
DHCP Server	
Enable DHCP Server	Select the checkbox to enable DHCP server.
Start IP	Enter the start IP address that the DHCP sever assigns.
End IP	Enter the end IP address that the DHCP server assigns.
Max Lease Time	The lease time determines the period that the PCs retain the assigned IP addresses before the IP addresses change.

For subsequent configuration, refer to the description in the above section PPPoE/PPPoA.

Note:

You may configure at most eight ATM VCs. To add an ATM VC, refer section 3.4.2.1 WAN

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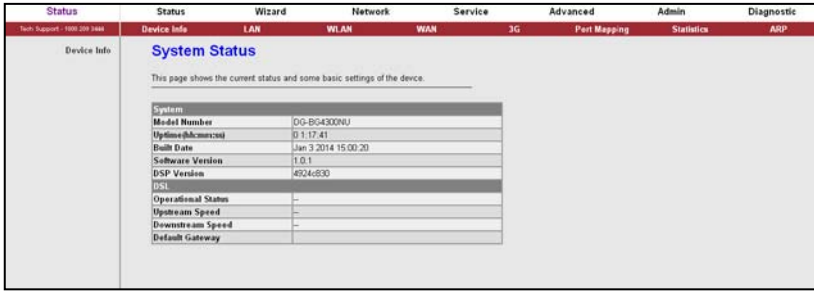
4.3 Status

In the navigation bar, choose Status. The Status page that is displayed contains: Device Info, LAN, WLAN, WAN, Port Mapping, Statistics and ARP.

4.3.1 Device Info

Choose **Status > Device Info**. The page that is displayed shows the current status and some basic settings of the router, such as software version, DSP version, uptime, upstream speed and downstream speed.



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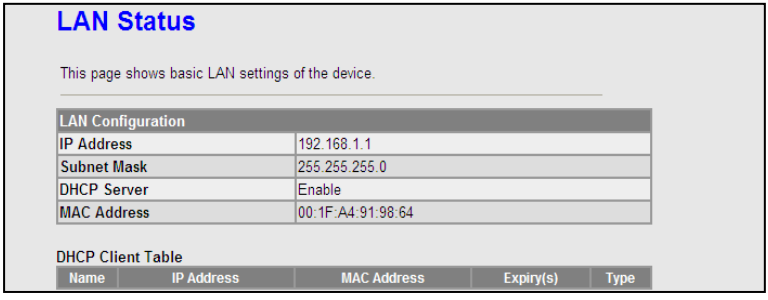
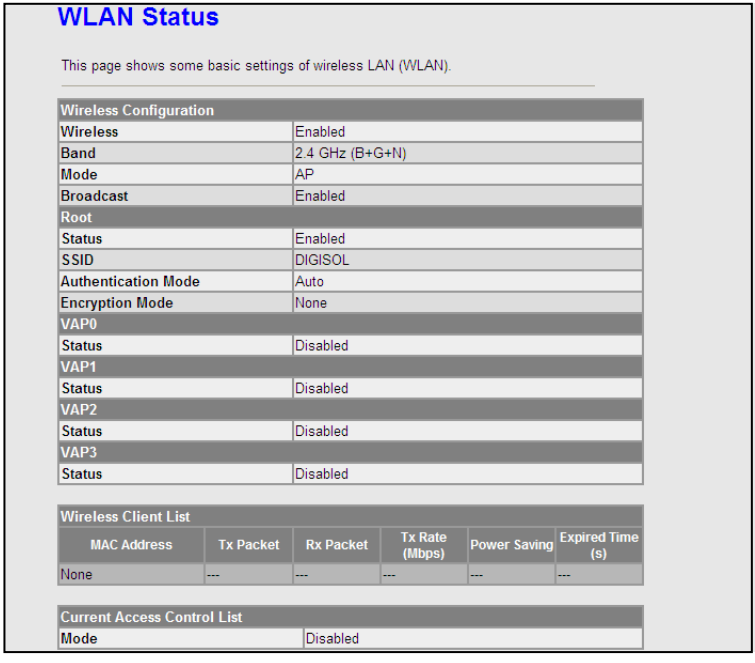
4.3.2 LAN

Choose **Status > LAN**. The page that is displayed shows some basic LAN settings of the router. In this page, you can view the LAN IP address, DHCP server status, MAC address and DHCP client table. If you want to configure the LAN network, refer to section 3.4.1.1 LAN IP



4.3.3 WLAN

Choose **Status > WLAN**. The page that is displayed shows some basic settings of wireless LAN (WLAN).



WLAN Status

This page shows some basic settings of wireless LAN (WLAN).

Wireless Configuration	
Wireless	Enabled
Band	2.4 GHz (B+G+N)
Mode	AP
Broadcast	Enabled
Root	
Status	Enabled
SSID	DIGISOL
Authentication Mode	Auto
Encryption Mode	None
VAP0	
Status	Disabled
VAP1	
Status	Disabled
VAP2	
Status	Disabled
VAP3	
Status	Disabled

Wireless Client List					
MAC Address	Tx Packet	Rx Packet	Tx Rate (Mbps)	Power Saving	Expired Time (s)
None	---	---	---	---	---

Current Access Control List	
Mode	Disabled

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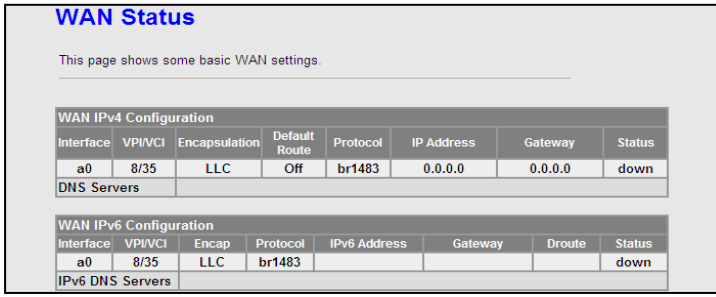
4.3.4 WAN

Choose **Status > WAN**. The page that is displayed shows some basic WAN settings of the router. In this page, you can view basic status of WAN and DNS server. If you want to configure the WAN network, refer to section 3.4.2.1 WAN



WAN Status

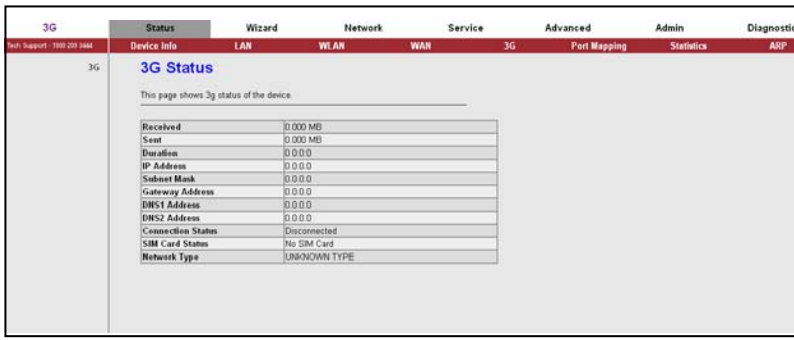
This page shows some basic WAN settings.

WAN IPv4 Configuration							
Interface	VPI/VCI	Encapsulation	Default Route	Protocol	IP Address	Gateway	Status
a0	8/35	LLC	Off	br1483	0.0.0.0	0.0.0.0	down
DNS Servers							

WAN IPv6 Configuration							
Interface	VPI/VCI	Encap	Protocol	IPv6 Address	Gateway	Droute	Status
a0	8/35	LLC	br1483				down
IPv6 DNS Servers							

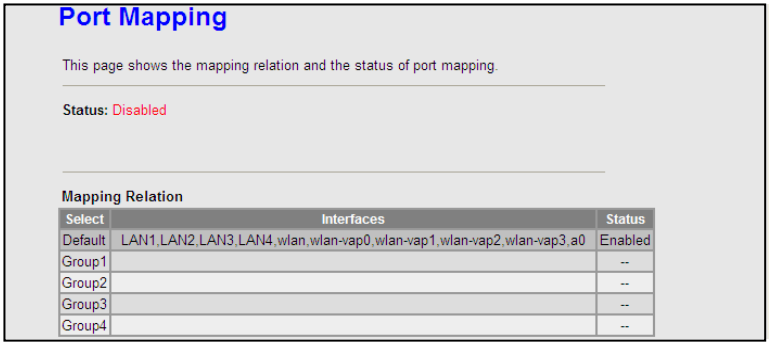
4.3.5 3G

Choose **Status > 3G**. This page shows the IP address details of 3G, SIM card status, connectivity status etc.



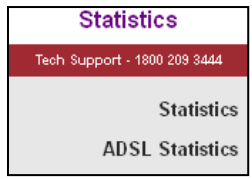
4.3.6 Port Mapping

Choose **Status > Port Mapping**. In this page, you can view the mapping relation and the status of port mapping.



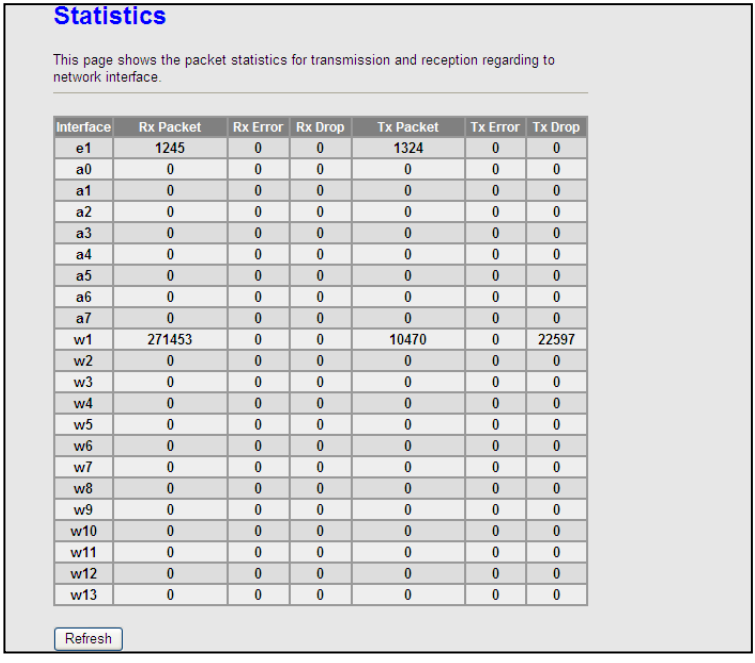
4.3.7 Statistics

Choose **Status > Statistics**. The Statistics page that is displayed contains Statistics and ADSL Statistics.



4.3.7.1 Statistics

Click **Statistics** in the left pane. The page shown in the following figure appears. In this page, you can view the statistics of each network port.



Statistics

This page shows the packet statistics for transmission and reception regarding to network interface.

Interface	Rx Packet	Rx Error	Rx Drop	Tx Packet	Tx Error	Tx Drop
e1	1245	0	0	1324	0	0
a0	0	0	0	0	0	0
a1	0	0	0	0	0	0
a2	0	0	0	0	0	0
a3	0	0	0	0	0	0
a4	0	0	0	0	0	0
a5	0	0	0	0	0	0
a6	0	0	0	0	0	0
a7	0	0	0	0	0	0
w1	271453	0	0	10470	0	22597
w2	0	0	0	0	0	0
w3	0	0	0	0	0	0
w4	0	0	0	0	0	0
w5	0	0	0	0	0	0
w6	0	0	0	0	0	0
w7	0	0	0	0	0	0
w8	0	0	0	0	0	0
w9	0	0	0	0	0	0
w10	0	0	0	0	0	0
w11	0	0	0	0	0	0
w12	0	0	0	0	0	0
w13	0	0	0	0	0	0

Refresh

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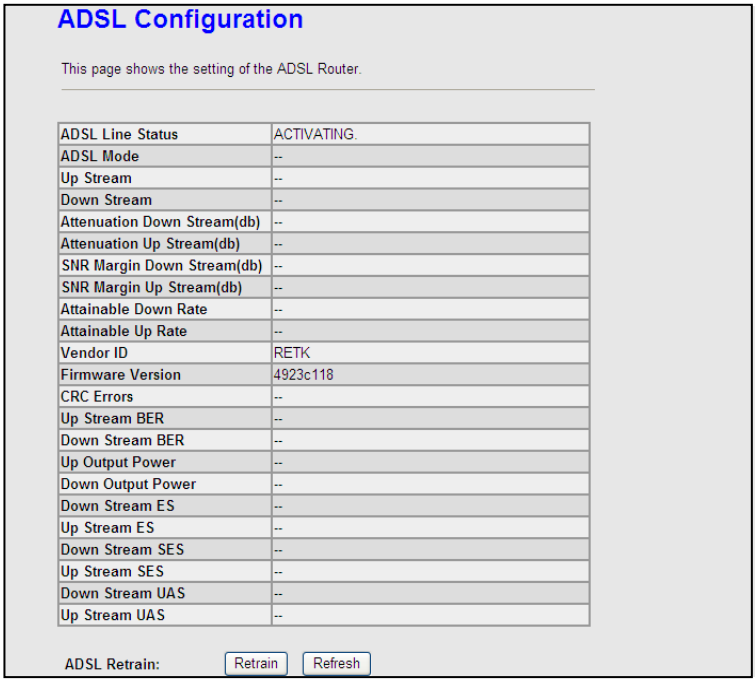
4.3.7.2 ADSL Statistics

Click **ADSL Statistics** in the left pane. The page shown in the following figure appears. In this page, you can view the ADSL line status, upstream rate, downstream rate and other information.



ADSL Configuration

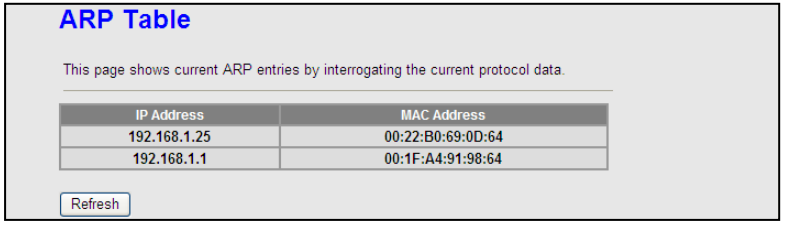
This page shows the setting of the ADSL Router.

ADSL Line Status	ACTIVATING.
ADSL Mode	--
Up Stream	--
Down Stream	--
Attenuation Down Stream(db)	--
Attenuation Up Stream(db)	--
SNR Margin Down Stream(db)	--
SNR Margin Up Stream(db)	--
Attainable Down Rate	--
Attainable Up Rate	--
Vendor ID	RETK
Firmware Version	4923c118
CRC Errors	--
Up Stream BER	--
Down Stream BER	--
Up Output Power	--
Down Output Power	--
Down Stream ES	--
Up Stream ES	--
Down Stream SES	--
Up Stream SES	--
Down Stream UAS	--
Up Stream UAS	--

ADSL Retrain: Retrain Refresh

4.3.8 ARP Table

Choose **Status > ARP**. In the ARP Table page, you can view the table that shows a list of learned MAC addresses.



4.4 Network

In the navigation bar, click **Network**. The Network page that is displayed contains LAN, WAN and WLAN.

4.4.1 LAN

Choose **Network > LAN**. The LAN page that is displayed contains LAN IP, IPv6 LAN Config, DHCP and DHCP Static IP.

4.4.1.1 LAN IP

Click **LAN IP** in the left pane, the page shown in the following figure appears.
In this page, you can change IP address of the router. The default IP address is 192.168.1.1, which is the private IP address of the router.

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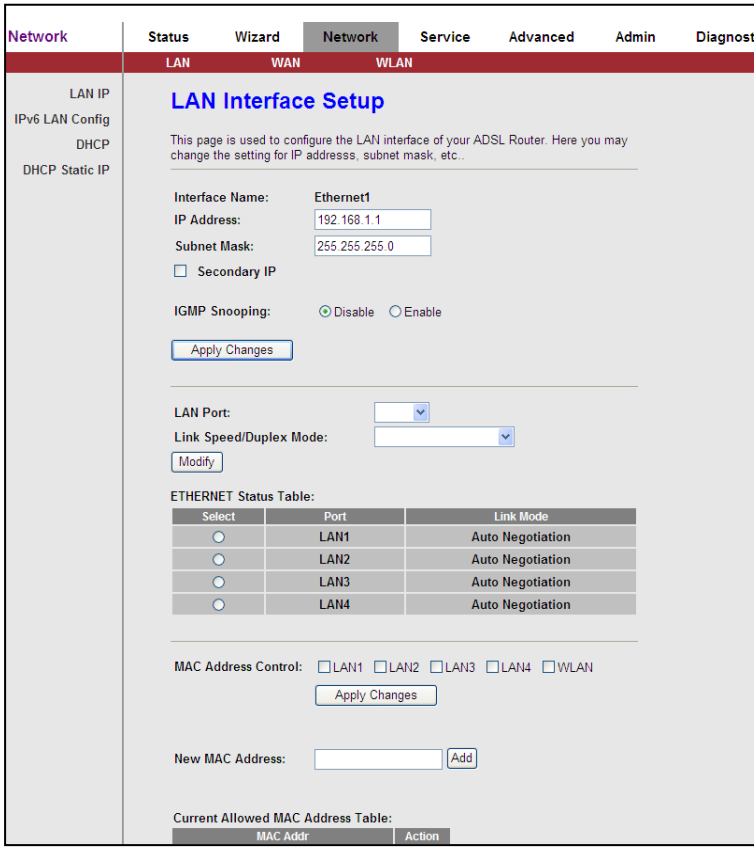

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The following table describes the parameters of this page:

Field	Description
IP Address	Enter the IP address of LAN interface. It is recommended to use an address from a block that is reserved for private use. This address block for example is 192.168.1.1 - 192.168.1.254.
Subnet Mask	Enter the subnet mask of LAN interface. The range of subnet mask is from 255.255.0.0 - 255.255.255.254.
Secondary IP	Select it to enable the secondary LAN IP address. The two LAN IP addresses must be in different networks
IGMP Snooping	When IGMP snooping is enabled, only hosts that belong to the group receive the multicast packets. If a host is deleted from the group, the host cannot receive the multicast packets any more.
LAN Port	You can choose the LAN interface you want to configure.
Link Speed / Duplex Mode	You can select the following modes from the drop-downlist:100Mbps/FullDuplex,100Mbps/Half Duplex,10Mbps/FullDuplex,10Mbps/HalfDuplex,Auto Negotiation.
MAC Address Control	It is the access control based on MAC address. Select it, and the host whose MAC address is listed in the Current Allowed MAC Address table can access the router.
Add	Enter MAC address and then click it to add a new MAC address.
Current allowed MAC address table	All the allowed MAC addresses added will be listed here.

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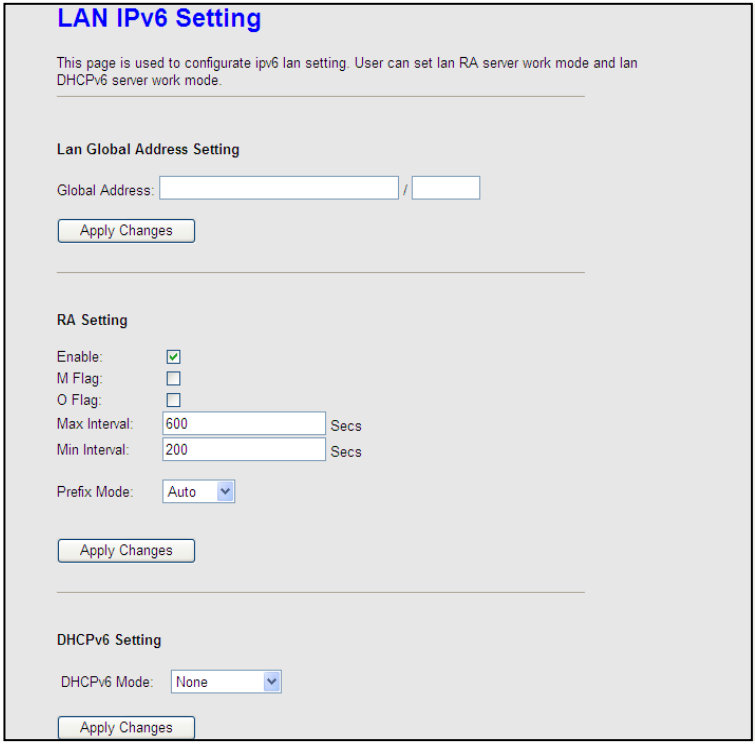
4.4.1.2 IPv6 LAN Config

Click **LAN IP** in the left pane, the page shown in the following figure appears. In this page, you can change the IP address of the router. The default IP address is 192.168.1.1, which is the private IP address of the router.



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The following table describes the RA parameters of this page.

Field	Description
Global Address	Specify the LAN global ipv6 address, which may be assigned by ISP.
RA Setting	
Enable	Enable or disable the Router Advertisement feature.
M Flag	Enable or disable the “Managed address configuration” flag in RA packet.
O Flag	Enable or disable the “Other configuration” flag in RA packet.
Max interval	The maximum time allowed between sending unsolicited multicast Router Advertisements from the interface, in seconds. Note: The Max Interval must not be less than 4 seconds and not greater than 1800 seconds.
Min Interval	The minimum time allowed between sending unsolicited multicast Router Advertisements from the interface, in seconds. Note: The Min Interval must not be less than 3 seconds and not greater than 0.75 * Max Interval.
Prefix Mode	Specify the RA feature prefix mode: “Auto”: The RA prefix will use Wan dhcp-pd prefix. “Manual”: User will specify the prefix Address, Length, Preferred time and Valid time.
DHCPv6 Setting	
DHCPv6 Mode	Specify the dhcpv6 server mode: “None”: Close dhcpv6 server. “Manual”: dhcpv6 server is opened and user specifies the dhcpv6 server address pool and other parameters. “Auto”: dhcpv6 server is opened and it can use Wan dhcp-pd prefix to generate address pool.

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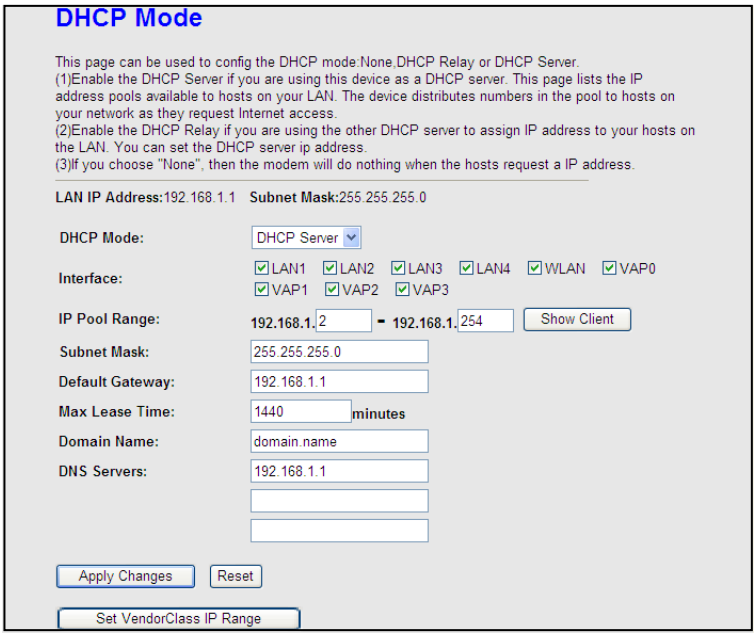
4.4.1.3 DHCP

Dynamic Host Configuration Protocol (DHCP) allows the individual PC to obtain the TCP/IP configuration from the centralized DHCP server. You can configure this router as a DHCP server or disable it. The DHCP server can assign IP address, IP default gateway and DNS server to DHCP clients. This router can also act as a DHCP server (DHCP Relay) where it relays IP address assignment from an actual real DHCP server to clients. You can enable or disable DHCP server.

Click **DHCP** in the left pane, the page shown in the following figure appears.


DHCP Mode
This page can be used to config the DHCP mode:None,DHCP Relay or DHCP Server.
(1)Enable the DHCP Server if you are using this device as a DHCP server. This page lists the IP address pools available to hosts on your LAN. The device distributes numbers in the pool to hosts on your network as they request Internet access.
(2)Enable the DHCP Relay if you are using the other DHCP server to assign IP address to your hosts on the LAN. You can set the DHCP server ip address.
(3)If you choose "None", then the modem will do nothing when the hosts request a IP address.
LAN IP Address:192.168.1.1 Subnet Mask:255.255.255.0
DHCP Mode:
DHCP Server
Interface:
LAN1 LAN2 LAN3 LAN4 WLAN VAP0
VAP1 VAP2 VAP3
IP Pool Range:
192.168.1.2 - 192.168.1.254
Show Client
Subnet Mask:
255.255.255.0
Default Gateway:
192.168.1.1
Max Lease Time:
1440
minutes
Domain Name:
domain.name
DNS Servers:
192.168.1.1
Apply Changes
Reset
Set VendorClass IP Range

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The following table describes the parameters of this page:

Field	Description
DHCP Mode	If set to DHCP Server, the router can assign IP addresses, IP default gateway and DNS Servers to the host in Windows95, Windows NT and other operation systems that support the DHCP client.
IP Pool Range	It specifies the first and the last IP address in the IP address pool. The router assigns IP address that is in the IP pool range to the host.
Show Client	Click it, the Active DHCP Client Table appears. It shows IP addresses assigned to clients.
Subnet Mask	Enter the subnet mask here.
Default Gateway	Enter the default gateway of the IP address pool.
Max Lease Time	The lease time determines the period that the host retains the assigned IP addresses before the IP addresses change.
Domain Name	Enter the domain name if you know. If you leave this blank, the domain name obtained by DHCP from the ISP is used. You must enter host name (system name) on each individual PC. The domain name can be assigned from the router through the DHCP server.
DNS Servers	You can configure the DNS server ip addresses for DNS Relay.
Set VendorClass IP Range	Click it, the Device IP Range Table appears. You can configure the IP address range based on the device type.

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Click **Show Client** in the DHCP Mode page, the page shown in the following figure appears. You can view the IP address assigned to each DHCP client.

The following table describes the parameters and buttons in this page:

Field	Description
IP Address	It displays the IP address assigned to the DHCP client from the router.
MAC Address	It displays the MAC address of the DHCP client. Each Ethernet device has a unique MAC address. The MAC address is assigned at the factory and it consists of six pairs of hexadecimal character, for example, 00-17-7C-00-02-12.
Expiry (s)	It displays the lease time. The lease time determines the period that the host retains the assigned IP addresses before the IP addresses change.
Type	Automatic, means if the IP / MAC of the client are not binded using the Static DHCP option. Manual, means the IP/MAC are binded using the Static DHCP Option.
Refresh	Click it to refresh this page.
Close	Click it to close this page.

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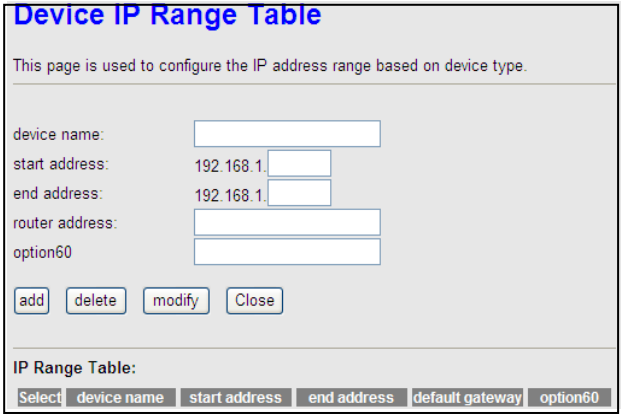
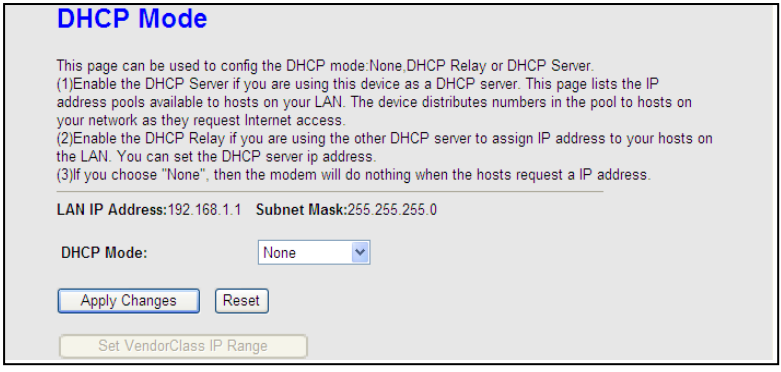
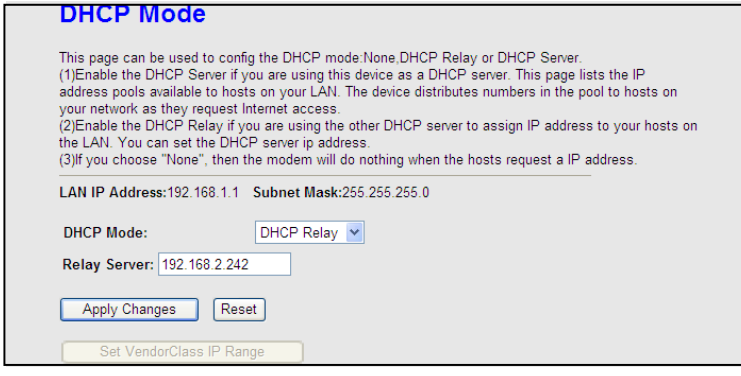
Click **Set VendorClass IP Range** in the **DHCP Mode** page, the page as shown in the following figure appears. In this page, you can configure the IP address range based on the device type.



In the **DHCP Mode** field, choose None. The page shown in the following figure appears.


DHCP Mode
This page can be used to config the DHCP mode:None,DHCP Relay or DHCP Server.
(1)Enable the DHCP Server if you are using this device as a DHCP server. This page lists the IP address pools available to hosts on your LAN. The device distributes numbers in the pool to hosts on your network as they request Internet access.
(2)Enable the DHCP Relay if you are using the other DHCP server to assign IP address to your hosts on the LAN. You can set the DHCP server ip address.
(3)If you choose "None", then the modem will do nothing when the hosts request a IP address.
LAN IP Address:192.168.1.1 Subnet Mask:255.255.255.0
DHCP Mode:
None
Apply Changes
Reset
Set VendorClass IP Range

In the **DHCP Mode field**, choose **DHCP Relay**. The page shown in the following figure appears.


DHCP Mode
This page can be used to config the DHCP mode:None,DHCP Relay or DHCP Server.
(1)Enable the DHCP Server if you are using this device as a DHCP server. This page lists the IP address pools available to hosts on your LAN. The device distributes numbers in the pool to hosts on your network as they request Internet access.
(2)Enable the DHCP Relay if you are using the other DHCP server to assign IP address to your hosts on the LAN. You can set the DHCP server ip address.
(3)If you choose "None", then the modem will do nothing when the hosts request a IP address.
LAN IP Address:192.168.1.1 Subnet Mask:255.255.255.0
DHCP Mode: DHCP Relay
Relay Server: 192.168.2.242
Apply Changes
Reset
Set VendorClass IP Range

The following table describes the parameters and buttons of this page:

Field	Description
DHCP Mode	If set to DHCP Relay, the router acts a DHCP Server and relays the DHCP requests and responses between the remote server and the client.
Relay Server	Enter the DHCP server address provided by your ISP.
Apply Changes	Click it to save the settings of this page.
Reset	Click it to refresh this page.

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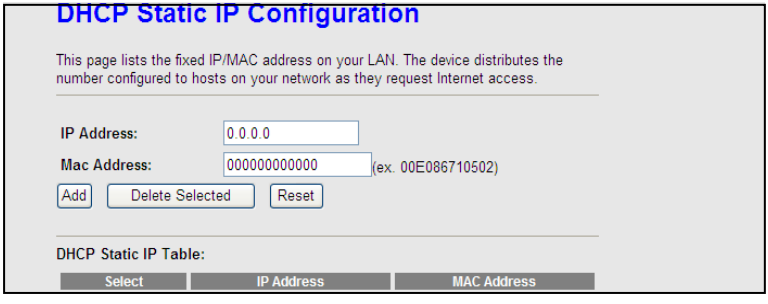
4.4.1.4 DHCP Static IP

Click **DHCP Static IP** in the left pane, the page shown in the following figure appears. You can assign the IP addresses on the LAN to the specific individual PCs based on their MAC address.



The following table describes the parameters and buttons of this page:

Field	Description
IP Address	Enter the specified IP address in the IP pool range, which is assigned to the host.
MAC Address	Enter the MAC address of a host on the LAN.
Add	After entering the IP address and MAC address, click it. A row will be added in the DHCP Static IP Table.
Delete Selected	Select a row in the DHCP Static IP Table, then click it, this row will be deleted.
Reset	Click it to refresh this page.
DHCP Static IP Table	It shows the assigned IP address based on the MAC address.

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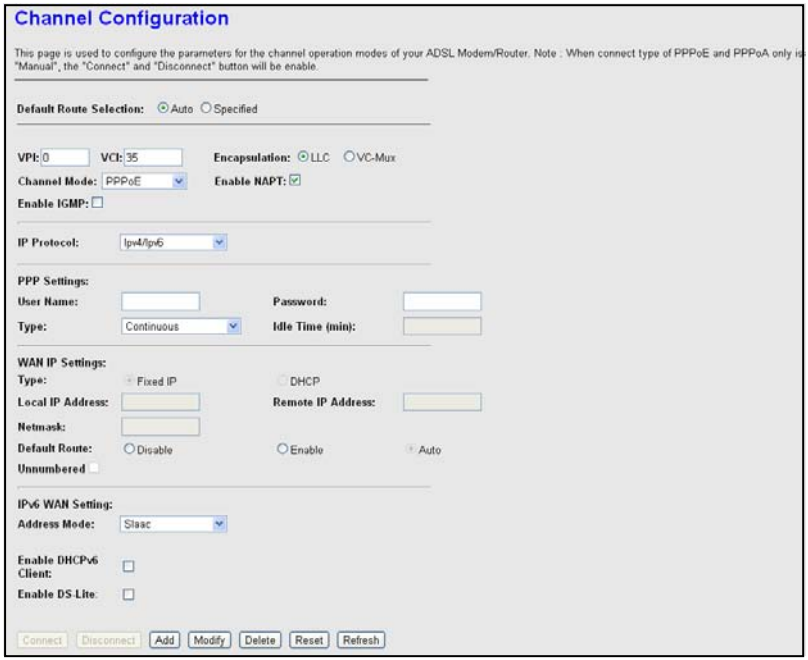
4.4.2 WAN

Choose **Network > WAN**. The WAN page that is displayed contains WAN, 3G, Auto PVC, ATM Settings and ADSL Settings.

4.4.2.1 WAN

Click **WAN** in the left pane, the page shown in the following figure appears. In this page, you can configure WAN interface of your router.


Channel Configuration
This page is used to configure the parameters for the channel operation modes of your ADSL Modem/Router. Note : When connect type of PPPoE and PPPoA only is
"Manual", the "Connect" and "Disconnect" button will be enable.
Default Route Selection: Auto Specified
VPI: 0 VCI: 35 Encapsulation: LLC VC-Mux
Channel Mode: PPPoE Enable NAPT:
Enable IGMP:
IP Protocol: Ipv4/Ipv6
PPP Settings:
User Name: Password:
Type: Continuous Idle Time (min):
WAN IP Settings:
Type: Fixed IP DHCP
Local IP Address: Remote IP Address:
Netmask:
Default Route: Disable Enable Auto
Unnumbered
IPv6 WAN Setting:
Address Mode: Slaac
Enable DHCPv6 Client:
Enable DS-Lite:
Connect Disconnect Add Modify Delete Reset Refresh

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The following table describes the parameters of this page:

Field	Description
Default Route Selection	You can select Auto or Specified.
VPI	The virtual path between two points in an ATM network, ranging from 0 to 255.
VCI	The virtual channel between two points in an ATM network, ranging from 32 to 65535 (1 to 31 are reserved for known protocols)
Encapsulation	You can choose LLC and VC-Mux.
Channel Mode	You can choose 1483 Bridged, 1483 MER, PPPoE, PPPoA, 1483 Routed or IPoA.
Enable NAPT	Select it to enable Network Address Port Translation (NAPT) function. If you do not select it and you want to access the Internet normally, you must add a route on the uplink equipment. Otherwise, the access to the Internet fails. Normally, it is enabled.
Enable IGMP	You can enable or disable Internet Group Management Protocol (IGMP) function.
PPP Settings	
User Name	Enter the correct user name for PPP dial-up, which is provided by your ISP.
Password	Enter the correct password for PPP dial-up, which is provided by your ISP.
Type	You can choose Continuous, Connect on Demand, or Manual.
Idle Time (min)	If set the type to Connect on Demand, you need to enter the idle timeout time. Within the preset minutes, if the router does not detect the flow of the user continuously, the router automatically disconnects the PPPoE connection.
WAN IP Settings	
Type	You can choose Fixed IP or DHCP. ● If select Fixed IP, you should enter the local IP address,

	remote IP address and subnet mask. • If select DHCP, the router is a DHCP client, the WAN IP address is assigned by the remote DHCP server.
Local IP Address	Enter the IP address of WAN interface provided by your ISP.
Netmask	Enter the subnet mask of the local IP address.
Unnumbered	Select this checkbox to enable IP unnumbered function.
Add	After configuring the parameters of this page, click it to add a new PVC into the Current ATM VC Table.
Modify	Select PVC in the Current ATM VC Table, then modify the parameters of this PVC. After finishing, click it to apply the settings of this PVC.
Delete	Select PVC in the Current ATM VC Table, then delete the PVC.
Reset	Click reset to undo the settings entered in this page and retain them to default settings.
Current ATM VC Table	This table shows the existing PVCs. It shows the interface name, channel mode, VPI/VCI, encapsulation mode, local IP address, remote IP address and other information. The maximum item of this table is eight.

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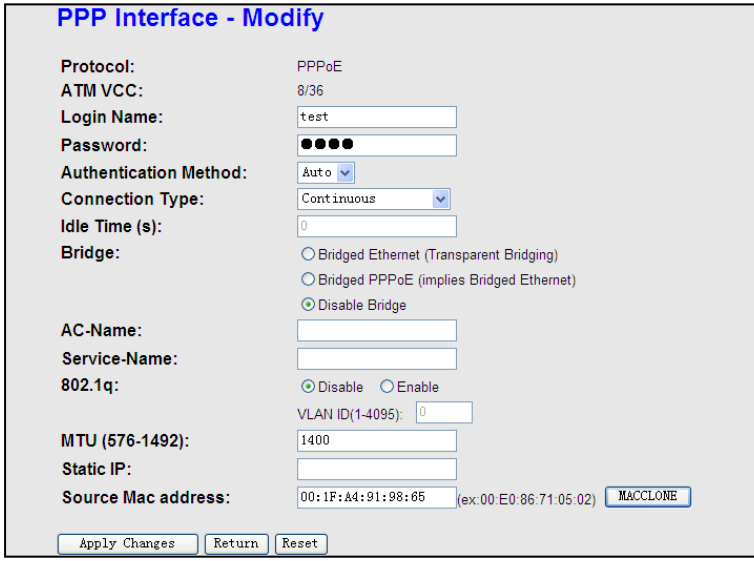
After adding a PPPoE ATM VC to the table, click in the PPPoE mode, the page shown in the following figure appears. In this page, you can configure parameters of this PPPoE PVC.



The following table describes the parameters and buttons of this page:

Field	Description
Protocol	It displays the protocol type used for this WAN connection.
ATM VCC	The ATM virtual circuit connection assigned for this PPP interface (VPI/VCI).
Login Name	The user name provided by your ISP.
Password	The password provided by your ISP.
Authentication Method	You can choose AUTO, CHAP or PAP.
Connection Type	You can choose Continuous, Connect on Demand, or Manual.
Idle Time (s)	If you choose Connect on Demand, you need to enter the idle

	timeout time. Within the preset minutes, if the router does not detect the flow of the user continuously, the router automatically disconnects the PPPoE connection.
Bridge	You can select Bridged Ethernet, Bridged PPPoE, or Disable Bridge.
AC-Name	The accessed equipment type.
Service-Name	The service name.
802.1q	You can select Disable or Enable. After you enable it, you need to enter the VLAN ID. The value ranges from 1 to 4095.
MTU (576-1492)	Maximum transfer unit is the Optimal MTU configuration for PPPoE ADSL Connections, which is set by ISP.
Apply Changes	Click it to save the settings of this page temporarily.
Return	Click it to return to the Channel Configuration page.
Reset	Click it to refresh this page to the original settings.
Source Mac address	The MAC address you want to clone.
MAC Clone	Click it to enable the MAC Clone function with the MAC address that is configured.

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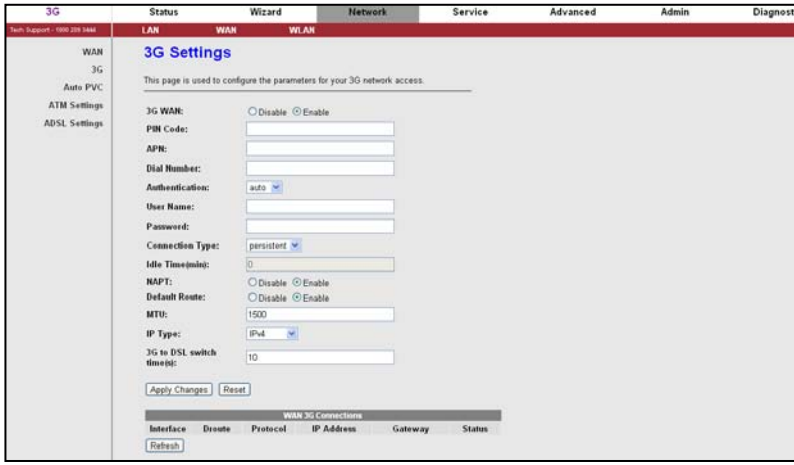
4.4.2.2 3G

This page is used to configure the parameters for your 3G network access.



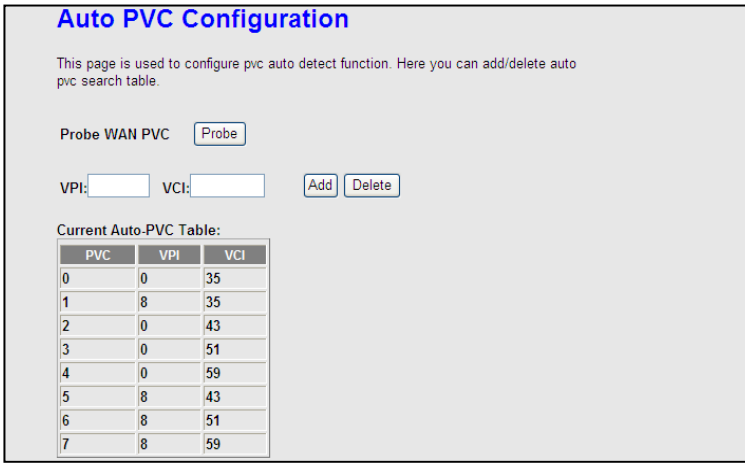
Field	Description
Enable/Disable	Selection will Enable or Disable 3G WAN.
Pincode	Enter the Pincode – Check with 3G Service provider.
APN	Enter the APN - Check with 3G Service provider.
Dial Number	Enter the dial number eg: *99#, #777 etc as per ISP.
Username	Enter username – Check with 3G service provider.
Password	Enter password – Check with 3G service provider.
Connection type	Persistent means Automatic dial & Manual means manual dial.
Idle Time (min)	Router will disconnect after idle for “x” minute.
NAPT	WAN IP/Port sharing (Network Address Port Translation)
Default Route	Enable or Disable Default route. Router will select the default route to internet.
MTU	Set as per 3G Service provider (Do not modify).

3G to DSL switch time	Set the switchover time in seconds.

Note: Kindly refer to the 3G USB compatibility list uploaded on the website.

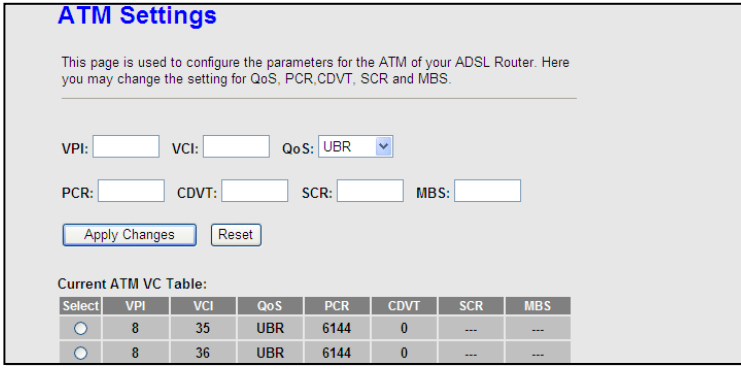
4.4.2.3 Auto PVC

Click **Auto PVC** in the left pane, page shown in the following figure appears. In this page, you can get PVC automatically through detecting function, and add or delete the PVC that you want or do not want.



4.4.2.4 ATM Settings

Click **ATM Settings** in the left pane, the page shown in the following figure appears. In this page, you can configure the parameters of the ATM, including QoS, PCR, CDVT, SCR and MBS.


ATM Settings
This page is used to configure the parameters for the ATM of your ADSL Router. Here you may change the setting for QoS, PCR,CDVT, SCR and MBS.
VPI:
VCI:
QoS: UBR
PCR:
CDVT:
SCR:
MBS:
Apply Changes
Reset
Current ATM VC Table:
Select VPI VCI QoS PCR CDVT SCR MBS
8 35 UBR 6144 0 --- ---
8 36 UBR 6144 0 --- ---

The following table describes the parameters of this page:

Field	Description
VPI	The virtual path identifier of the ATM PVC.
VCI	The virtual channel identifier of the ATM PVC.
QoS	The QoS category of the PVC. You can choose UBR, CBR, rt-VBR or nrt-VBR.
PCR	Peak cell rate (PCR) is the maximum rate at which cells can be transmitted along a connection in the ATM network. Its value ranges from 1 to 65535.
CDVT	Cell delay variation tolerance (CDVT) is the amount of delay permitted between ATM cells (in microseconds). Its value ranges from 0 to 4294967295.
SCR	Sustained cell rate (SCR) is the maximum rate that traffic can pass over PVC without the risk of cell loss. Its value ranges from 0 to 65535.

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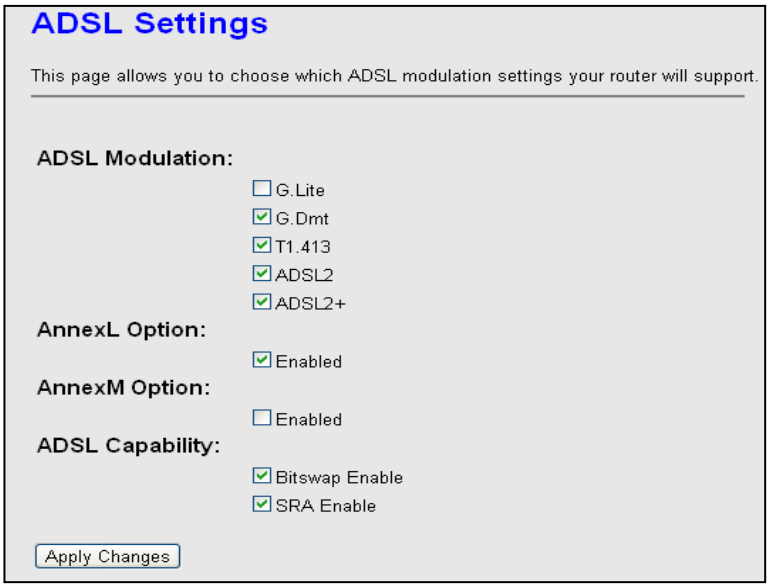
MBS	Maximum burst size (MBS) is the maximum number of cells that can be transmitted at the PCR. Its value ranges from 0 to 65535.

4.4.2.5 ADSL Settings

Click **ADSL Settings** in the left pane, the page shown in the following figure appears. In this page, you can select the DSL modulation. Mostly, try to retain the factory default settings. The router supports these modulations: G.Lite, G.Dmt, T1.413, ADSL2 and ADSL2+. The router negotiates the modulation modes with the DSLAM.

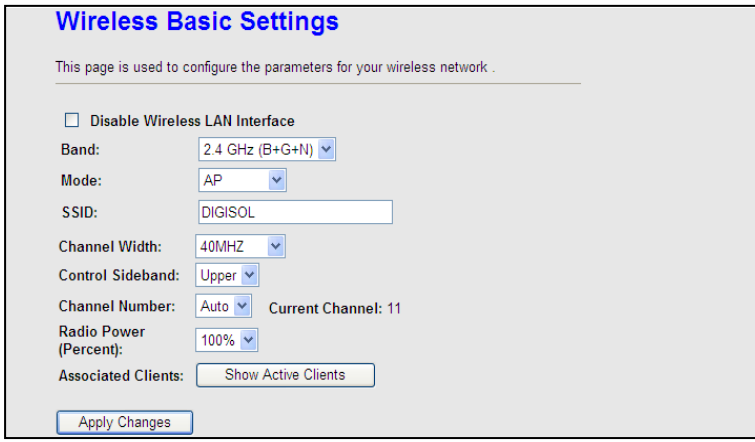


4.4.3 WLAN

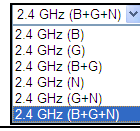
Choose **Network > WLAN**. The WLAN page that is displayed contains Basic, Security, Access Control List, MBSSID, Advanced, WPS, WDS and WDS Security.

4.4.3.1 Basic

Choose **WLAN > Basic** and the following page appears. In this page, you can configure the parameters for wireless LAN clients that may connect to the router.



The following table describes the parameters of this page:

Field	Description
Band	Choose the working mode of the router. You can choose from drop-down list. 
Mode	Choose the network mode of the router, which is varied according to the software. By default, the network model of the router is AP.
SSID	The service set identification (SSID) is a unique name to identify the router in the wireless LAN. Wireless stations associating to the router must have the same SSID. Enter a descriptive name that is used when the wireless client is connecting to the router.
Channel Width	Options available are 40 MHZ, 20 MHz and 40/20 MHz
Control Sideband	There are two sidebands upper and lower bands. The lower band comprises of channel numbers 1-7. The upper band comprises of channel numbers 5-11.
Channel Number	A channel is the radio frequency used by 802.11b/g/n wireless devices. There are 11 channels (from 1 to 11) available depending on the geographical area. When You may have a choice of channels (for your region) you should use a different channel from an adjacent AP to reduce the interference and degrading performance occurs when radio signal from different APs overlap. Choose a channel from the drop-down list box.
Radio Power (Percent)	You can choose the transmission power of the radio signal. The default one is 100%. It is recommended to choose the default value 100%.
Show Active Clients	Click it to view the information of the wireless clients that are connected to the router.
Apply Changes	Click it to apply the settings.

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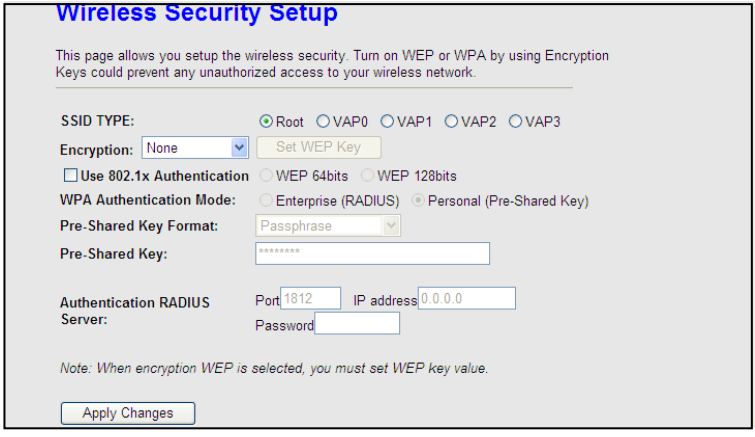
4.4.3.2 Security

Choose **Wireless > Security** and the following page appears.

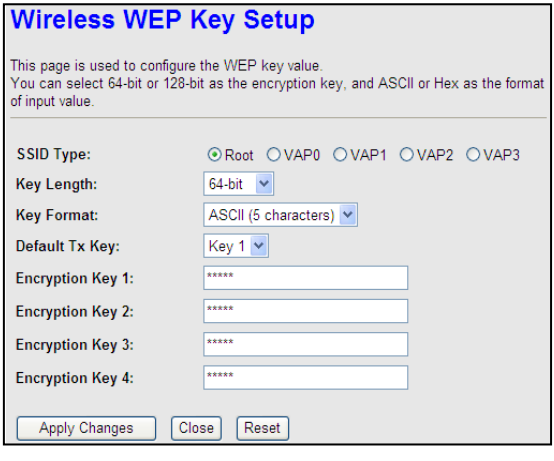

Wireless Security Setup
This page allows you setup the wireless security. Turn on WEP or WPA by using Encryption Keys could prevent any unauthorized access to your wireless network.
SSID TYPE:
Root VAP0 VAP1 VAP2 VAP3
Encryption: None
Set WEP Key
Use 802.1x Authentication
WEP 64bits WEP 128bits
WPA Authentication Mode:
Enterprise (RADIUS) Personal (Pre-Shared Key)
Pre-Shared Key Format:
Passphrase
Pre-Shared Key:
Authentication RADIUS Server:
Port 1812 IP address 0.0.0.0
Password
Note: When encryption WEP is selected, you must set WEP key value.
Apply Changes

The following table describes the parameters of this page:

Field	Description
Encryption	Configure the wireless encryption mode. You can choose None, WEP, WPA (TKIP), WPA (AES), WPA2 (AES), WPA2 (TKIP) or WPA2 Mixed. • Wired equivalent privacy (WEP) encrypts data frames before transmitting over the wireless network. • Wi-Fi protected access (WPA) is a subset of the IEEE802.11i security specification draft. • WPA2 Mixed is the collection of WPA and WPA2 encryption modes. The wireless client establishes the connection between the router through WPA or WPA2. Key differences between WPA and WEP are user

	authentication and improved data encryption.
Set WEP Key	It is available when you set the encryption mode to WEP. Click it, the Wireless WEP Key Setup page appears.
WPA Authentication Mode	• Select Personal (Pre-Shared Key), enter the pre-shared key in the Pre-Shared Key field. • Select Enterprise (RADIUS), enter the port, IP address, and password of the Radius server. You need to enter the username and password provided by the Radius server when the wireless client connects the router. If the encryption is set to WEP, the router uses 802.1x authentication, which is Radius authentication.

Click **Set WEP Key**, as shown in the screen above and the following screen appears.



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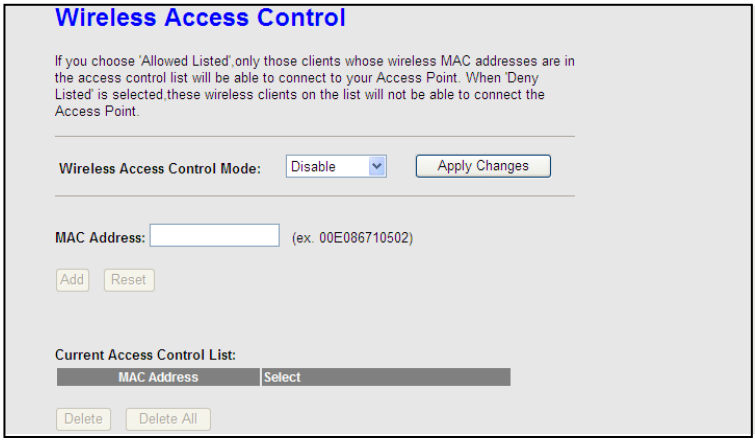
4.4.3.3 Access Control List

Choose **WLAN > Access Control** List and the following page appears. In this page, you can configure the access control of the wireless clients.


Wireless Access Control
If you choose 'Allowed Listed',only those clients whose wireless MAC addresses are in the access control list will be able to connect to your Access Point. When 'Deny Listed' is selected,these wireless clients on the list will not be able to connect the Access Point.
Wireless Access Control Mode:
Disable
Apply Changes
MAC Address:
(ex. 00E086710502)
Add
Reset
Current Access Control List:
MAC Address
Select
Delete
Delete All

Choose **Allow Listed** as the access control mode to enable white list function. Only the devices whose MAC addresses are listed in the Current Access Control List can access the router.

Choose **Deny Listed** as the access control mode to enable black list function. The devices whose MAC addresses are listed in the Current Access Control List are denied to access the router.

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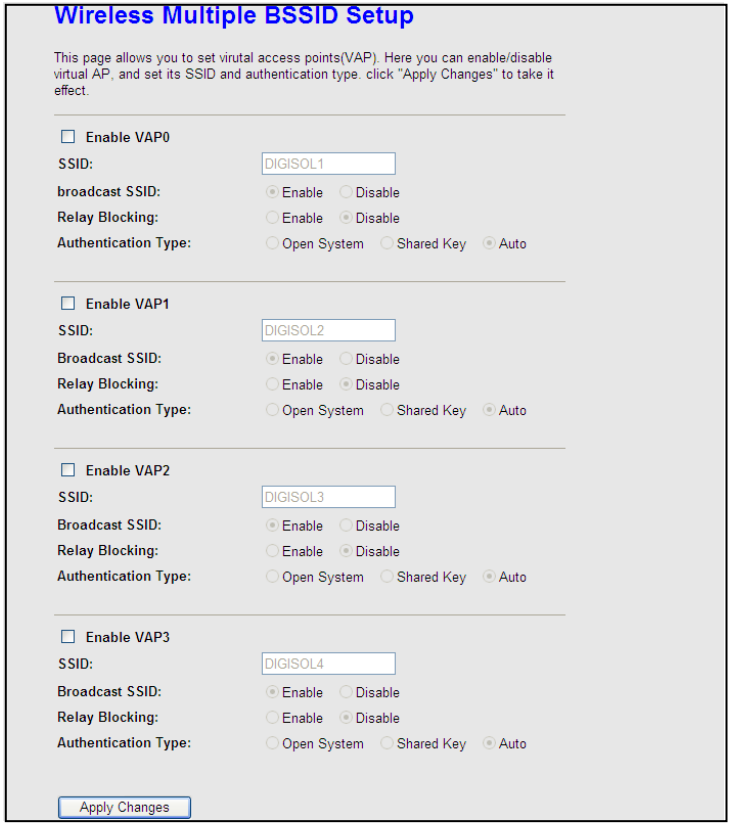
4.4.3.4 MBSSID

Choose **Wireless > MBSSID** and the following page appears. In this page, you can configure the multiple SSID on the access point.


Wireless Multiple BSSID Setup
This page allows you to set virutal access points(VAP). Here you can enable/disable virtual AP, and set its SSID and authentication type. click "Apply Changes" to take it effect.
Enable VAP0
SSID: DIGISOL1
broadcast SSID: Enable Disable
Relay Blocking: Enable Disable
Authentication Type: Open System Shared Key Auto
Enable VAP1
SSID: DIGISOL2
Broadcast SSID: Enable Disable
Relay Blocking: Enable Disable
Authentication Type: Open System Shared Key Auto
Enable VAP2
SSID: DIGISOL3
Broadcast SSID: Enable Disable
Relay Blocking: Enable Disable
Authentication Type: Open System Shared Key Auto
Enable VAP3
SSID: DIGISOL4
Broadcast SSID: Enable Disable
Relay Blocking: Enable Disable
Authentication Type: Open System Shared Key Auto
Apply Changes

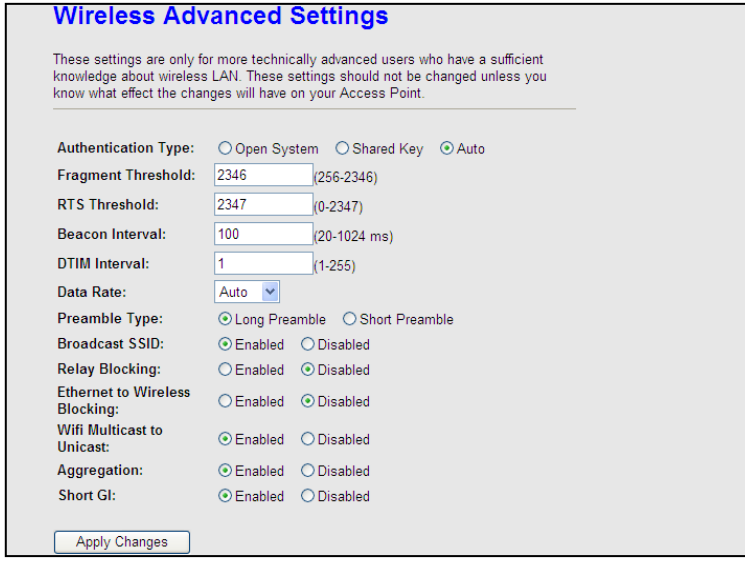
It supports four virtual access points (VAPs). It is a unique name to identify the router in the wireless LAN. Wireless stations associating to the router must have the same name. Enter a descriptive name that is used when the wireless client connects to the router.

4.4.3.5 Advanced

Choose **WLAN > Advanced** and the following page appears. In this page, you can configure the wireless advanced parameters. It is recommended to use the default parameters.

Note:

The parameters in the **Advanced** link are modified by the professional personnel, it is recommended to keep the default values.


Wireless Advanced Settings
These settings are only for more technically advanced users who have a sufficient knowledge about wireless LAN. These settings should not be changed unless you know what effect the changes will have on your Access Point.
Authentication Type: Open System Shared Key Auto
Fragment Threshold: 2346 (256-2346)
RTS Threshold: 2347 (0-2347)
Beacon Interval: 100 (20-1024 ms)
DTIM Interval: 1 (1-255)
Data Rate: Auto
Preamble Type: Long Preamble Short Preamble
Broadcast SSID: Enabled Disabled
Relay Blocking: Enabled Disabled
Ethernet to Wireless Blocking: Enabled Disabled
Wifi Multicast to Unicast: Enabled Disabled
Aggregation: Enabled Disabled
Short GI: Enabled Disabled
Apply Changes

The following table describes the parameters of this page:

Field	Description
Authentication type	Select the router operating in the open system or encryption authentication. You can choose Open System, Shared Key, or Auto.

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	• In the open system, the wireless client can directly connect to the device. • In Shared key, the wireless client connects to the router using the shared key. • The default is set to Auto, which allows either Open System or Shared Key authentication to be used.
Fragment treshold	This value should remain at its default setting of 2346. It specifies the maximum size for a packet before data is fragmented into multiple packets. If you experience a high packet error rate, you may slightly increase the “Fragment Threshold” value within the value range of 256 to 2346. Setting this value too low may result in poor network performance. Only minor modifications of this value are recommended.
RTS Treshold	This value should remain at its default setting of 2347. If you encounter inconsistent data flow, only minor modifications are recommended. If a network packet is smaller than the preset “RTS threshold” size, the RTS/CTS mechanism will not be enabled.
Beacon Interval	The Beacon Interval value indicates the frequency interval of the beacon. Enter a value between 20 and 1024.
DTIM Interval	Data beacon proportion (transmission quantity indication). Its value range is 1-255 and the default value is 100.
Data Rate	Choose the transmission rate of the wireless data. You can choose Auto, 1 M, 2 M, 5.5 M, 11 M, 6 M, 9 M, 12 M, 18 M, 24 M, 36 M, 48 M, 54M, MSC0 ~ MSC7.
PreambleType	• Long Preamble: It means this card always uses long preamble. • Short Preamble: It means this card can support short preamble capability.
Broadcast SSID	Select whether the router broadcasts SSID or not. You can select Enable or Disable. • Select Enable, the wireless client searches the router

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	through broadcasting SSID. • Select Disable to hide SSID, the wireless clients can not find the SSID.
Relay Blocking	Wireless isolation. Once this field is Enabled, the wireless clients that are connected to the router cannot intercommunicate.
Ethernet to Wireless Blocking	Whether the wireless network can communicate with the Ethernet network or not.
Wifi Multicast to Unicast	Enable it to use unicast to transmit multicast packets.
Aggregation	It is applied when the destination end of all MPDU are for one STA.
Short GI	It is not recommended to enable GI in obvious environment of Multi-path effect.
Apply Changes	Click on this button to apply the settings.

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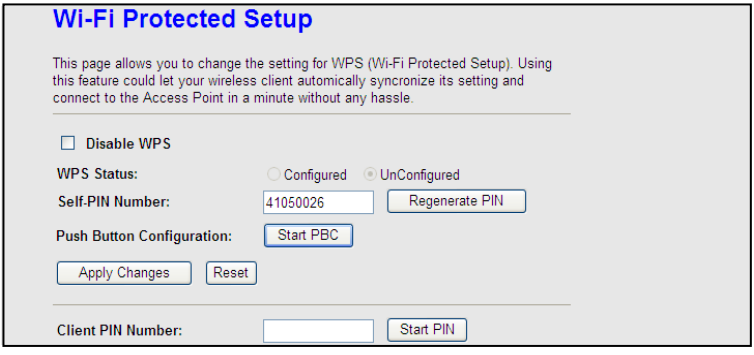
4.4.3.6 WPS

Choose **WLAN > WPS** and the following page appears.


Wi-Fi Protected Setup
This page allows you to change the setting for WPS (Wi-Fi Protected Setup). Using this feature could let your wireless client automically syncronize its setting and connect to the Access Point in a minute without any hassle.
Disable WPS
WPS Status:
Configured
UnConfigured
Self-PIN Number:
41050026
Regenerate PIN
Push Button Configuration:
Start PBC
Apply Changes
Reset
Client PIN Number:
Start PIN

There are two ways for the wireless client to establish connection with the router through WPS. Click Regenerate PIN to generate a new PIN. In the wireless client tool, enter the PIN which is generated by the router, start connection. The client will automatically establish the connection with the router through the encryption mode, and you need not enter the key. The other way is the wireless client generates PIN. In the above figure, enter PIN of the wireless client in the Client PIN Number field, then click Start PIN to establish the connection.

Note:

The wireless client establishes the connection with the router through WPS negotiation. The wireless client must support WPS.

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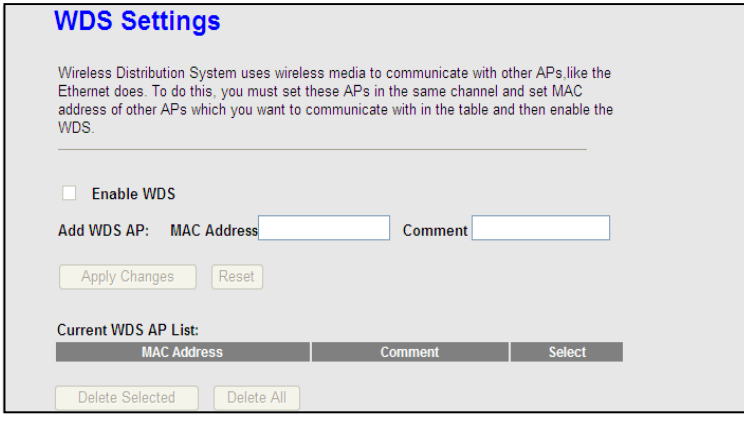
4.4.3.7 WDS

Choose **WLAN > WDS**, and the following page appears. In this page you can enable wireless distribution system (WDS) so that the router can communicate with another AP.


WDS Settings
Wireless Distribution System uses wireless media to communicate with other APs,like the Ethernet does. To do this, you must set these APs in the same channel and set MAC address of other APs which you want to communicate with in the table and then enable the WDS.
Enable WDS
Add WDS AP: MAC Address
Comment
Apply Changes
Reset
Current WDS AP List:
MAC Address
Comment
Select
Delete Selected
Delete All

The following table describes the parameters of this page:

Field	Description
Enable WDS	Check this box to enable WDS
MAC Address	Wireless MAC address of the AP to be connected.
Comment	Add comment for the WDS AP.
Current WDS AP List	All the MAC addresses of the AP to be connected will be listed here

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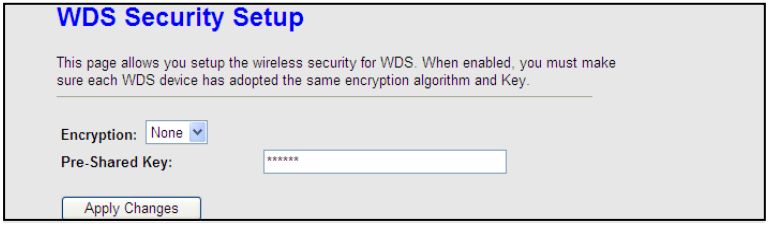
4.4.3.8 WDS Security

Choose **WLAN > WDS Security**, and the following page appears. In this page, you can set up wireless security for WDS.


WDS Security Setup
This page allows you setup the wireless security for WDS. When enabled, you must make sure each WDS device has adopted the same encryption algorithm and Key.
Encryption: None
Pre-Shared Key: ******
Apply Changes

The following table describes the parameters of this page:

Field	Description
Encryption	Choose a WDS encryption algorithm from None, WEP, WPA/WPA 2 (TKIP and AES) and WPA2 Mixed.
Pre-shared Key	Enter an encryption key.

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4.5 Service

In the navigation bar, click Service. The Service page that is displayed contains DNS, Firewall, UPNP, IGMP Proxy, TR-069 and ACL.

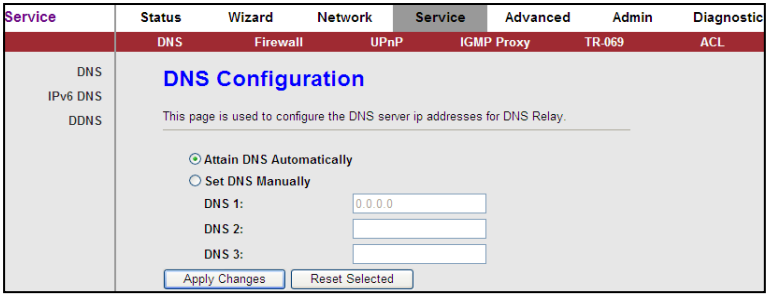
4.5.1 DNS

Domain Name System (DNS) is an Internet service that translates the domain name into IP address. Because the domain name is alphabetic, it is easier to remember. The Internet, however, it is based on IP addresses. Every time you use a domain name, DNS translates the name into the corresponding IP address. For example, the domain name www.example.com might be translated to 198.105.232.4. The DNS has its own network. If one DNS server does not know how to translate a particular domain name, it asks another one, and so on, until the correct IP address is returned.

Choose **Service > DNS**. The DNS page that is displayed contains DNS, IPv6 DNS and DDNS.

4.5.1.1 DNS

Click **DNS** in the left pane, and the page shown in the following figure appears.



The following table describes the parameters and buttons of this page:

Field	Description
Attain DNS Automatically	Select it, the router accepts the first received DNS assignment from one of the PPPoA, PPPoE or MER enabled PVC(s) during the connection establishment.
Set DNS Manually	Select it, enter the IP addresses of the primary and secondary DNS server.
Apply Changes	Click it to save the settings of this page.
Reset Selected	Click on reset selected to reset the values back to default.

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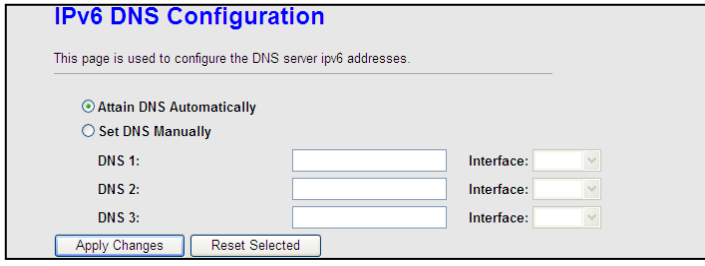
4.5.1.2 IPv6 DNS

Click **DNS** in the left pane, and the page shown in the following figure appears.



The following table describes the parameters and buttons of this page.

Field	Description
Attain DNS Automatically	Select it, the router accepts the first received DNS assignment from one of the PPPoA, PPPoE or MER enabled PVC(s) during the connection establishment.
Set DNS Manually	Select it, enter the IP addresses and choose the WAN interface of the primary, the secondary and the tertiary DNS server.
Apply Changes	Click it to save the settings of this page.
Reset Selected	Click it to start configuring the parameters in this page.

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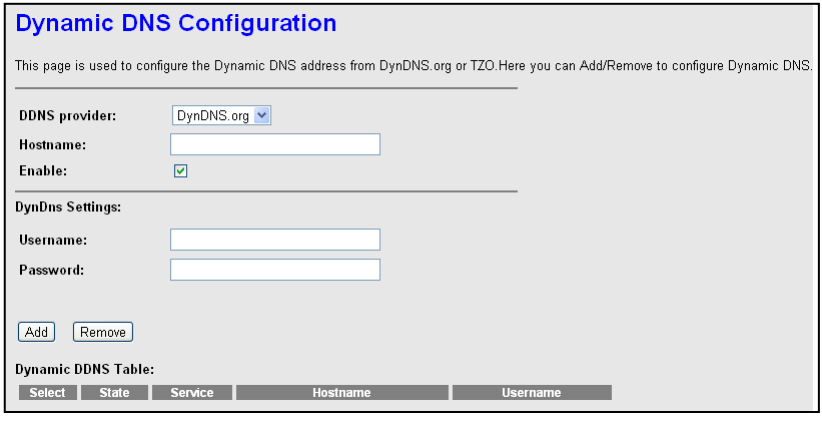
4.5.1.3 DDNS

Click **DDNS** in the left pane, and the page shown in the following figure appears. This page is used to configure the dynamic DNS address from DynDNS.org or TZO. You can add or remove to configure dynamic DNS.



The following table describes the parameters of this page:

Field	Description
DDNS provider	Choose the DDNS provider name. You can choose DynDNS.org or TZO.
Host Name	The DDNS identifier.
Enable	Enable or disable DDNS function.
Username	The name provided by DDNS provider.
Password	The password provided by DDNS provider.

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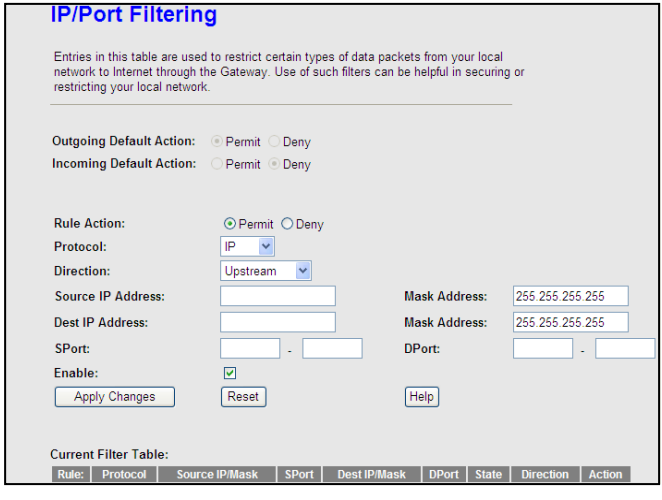
4.5.2 Firewall

Choose **Service > Firewall**. The Firewall page that is displayed contains IP/Port Filter, IPv6/Port Filter, MAC Filter, URL Filter, Anti-DoS and Software Forbidden.

4.5.2.1 IP/Port Filter

Click **IP/Port Filter** in the left pane, and the page shown in the following figure appears. Entries in the table are used to restrict certain types of data packets through the gateway. These filters are helpful in securing or restricting your local network.


IP/Port Filtering
Entries in this table are used to restrict certain types of data packets from your local network to Internet through the Gateway. Use of such filters can be helpful in securing or restricting your local network.
Outgoing Default Action: Permit Deny
Incoming Default Action: Permit Deny
Rule Action: Permit Deny
Protocol: IP
Direction: Upstream
Source IP Address:
Mask Address: 255.255.255.255
Dest IP Address:
Mask Address: 255.255.255.255
SPort:
DPort:
Enable:
Apply Changes
Reset
Help
Current Filter Table:
Rule: Protocol Source IP/Mask SPort Dest IP/Mask DPort State Direction Action

Field	Description
Rule Action	Select Permit to Allow packet route and select Deny to stop the packet.
Protocol	Select the Protocol type for a rule.
Direction	Select Upstream or Downstream direction.
Source IP	Type the IPv4 address of source device or host.

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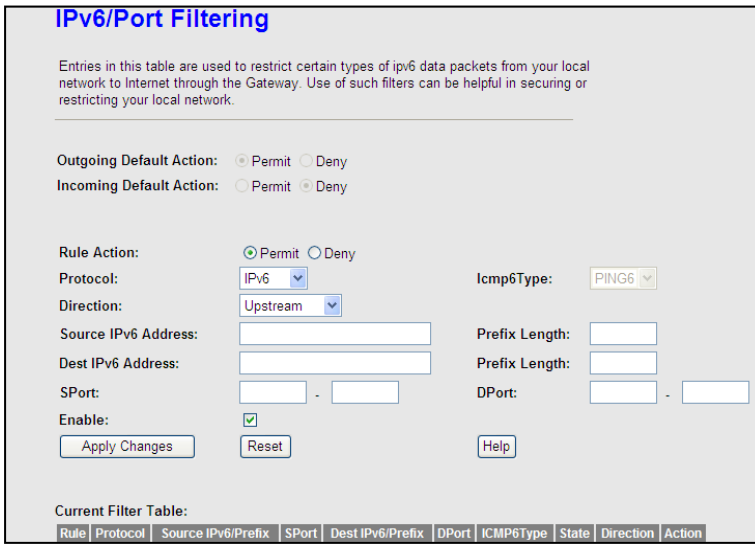
Address	
Destination IP Address	Type the IPv4 address of destination device or host.
Mask Address	Type the subnet mask address.
S-Port	Type the Source port range.
D-Port	Type the destination port range.
Enable	Select check box to enable the rule or uncheck to disable the rule.

4.5.2.2 IPv6/Port Filter

Click **IPv6/Port** Filter in the left pane, and the page shown in the following figure appears. Entries in this table are used to restrict certain types of ipv6 data packets from your local network to the Internet through the Gateway.


IPv6/Port Filtering
Entries in this table are used to restrict certain types of ipv6 data packets from your local network to Internet through the Gateway. Use of such filters can be helpful in securing or restricting your local network.
Outgoing Default Action: Permit Deny
Incoming Default Action: Permit Deny
Rule Action: Permit Deny
Protocol: IPv6
Icmp6Type: PING6
Direction: Upstream
Source IPv6 Address:
Prefix Length:
Dest IPv6 Address:
Prefix Length:
SPort:
DPort:
Enable:
Apply Changes
Reset
Help
Current Filter Table:
Rule Protocol Source IPv6/Prefix SPort Dest IPv6/Prefix DPort ICMP6Type State Direction Action

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Field	Description
Rule Action	Select Permit to Allow packet route and select Deny to stop the packet.
Protocol	Select the Protocol type for a rule.
Direction	Select Upstream or Downstream direction.
Icmp6Type	Select the ICMP version.
Source IPv6 Address	Type the IPv6 address of source device or host.
Destination IPv6 Address	Type the IPv6 address of destination device or host.
Prefix Length	Type the Prefix length value of the IPv6 address.
S-Port	Type the Source port range.
D-Port	Type the destination port range.
Enable	Select check box to enable the rule or uncheck to disable the rule.

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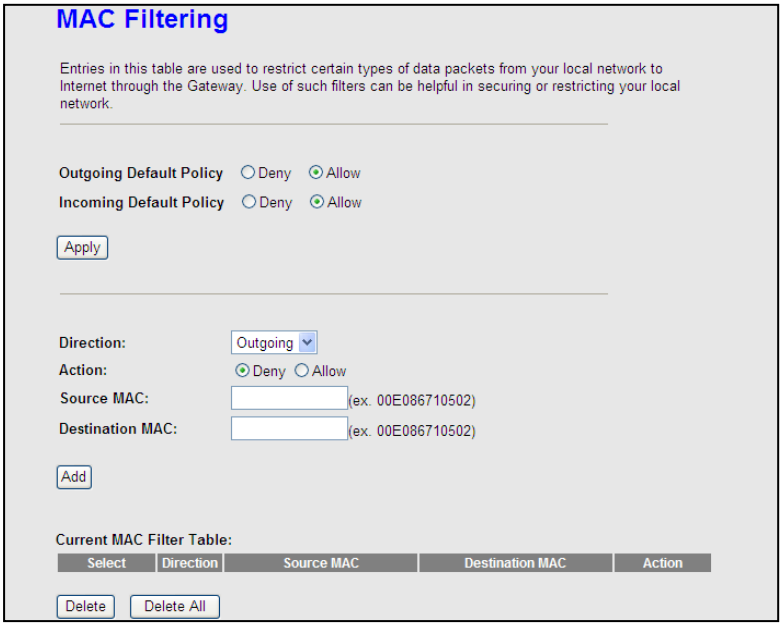
4.5.2.3 MAC Filter

Click **MAC Filter** in the left pane, and the page shown in the following figure appears. Entries in the table are used to restrict certain types of data packets from your local network to Internet through the gateway. These filters are helpful in securing or restricting your local network.

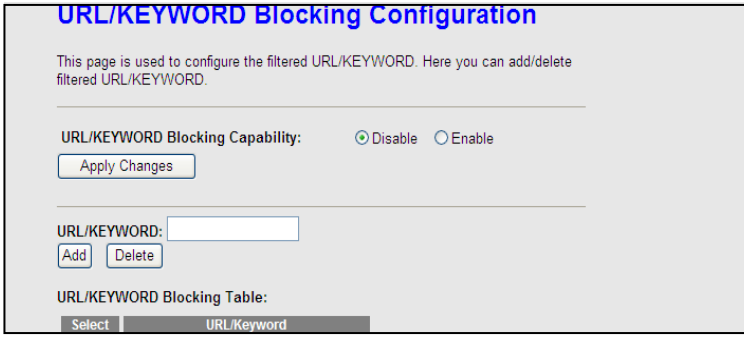


Field	Description
Outgoing Default Policy	Select default Allow OR Deny for Outgoing policy.
Incoming Default Policy	Select default Allow OR Deny for Incoming policy.

Direction	Select Incoming or Outgoing direction.
Action	Select Allow or Deny for MAC filter entry.
Source MAC	Type the MAC address of the source device or PC.
Destination MAC	Type the MAC address of the destination device or PC.

4.5.2.4 URL Filter

Click **URL Filter** in the left pane, and the page shown in the following figure appears. This page is used to block a fully qualified domain name, such as tw.yahoo.com and filtered keyword. You can add or delete the filtered keyword.



The following table describes the parameters and buttons of this page:

Field	Description
URL/KEYWORD Blocking Capability	You can choose Disable or Enable. • Select Disable to disable URL/KEYWORD blocking function and keyword filtering function. • Select Enable to block access to the URLs and keywords specified in the URL/KEYWORD Blocking Table.
URL/Keyword	Enter the URL/keyword to block.

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Field	Description
Add	Click it to add a URL/keyword to the URL/KEYWORD Blocking Table.
Delete	Select a row in the URL/KEYWORD Blocking Table and click Delete to delete the row.
URL/KEYWORD Blocking Table	A list of URL (s) to which access is blocked will be displayed in this table.

4.5.2.5 Anti-DoS

Denial-of-Service Attack (DoS attack) is a type of attack on a network that is designed to bring the network to its knees by flooding it with useless traffic.

A denial-of-service attack (DoS attack) is an attempt to make a computer resource unavailable to its intended users. One common method of attack involves saturating the target machine with external communications requests, such that it cannot respond to legitimate traffic, or responds so slowly as to be rendered effectively unavailable. Such attacks usually lead to a server overload.

In general terms, DoS attacks are implemented by either forcing the targeted computer(s) to reset, or consuming its resources so that it can no longer provide its intended service or obstructing the communication media between the intended users and the victim so that they can no longer communicate adequately.

Enable DoS Prevention to detect and prevent denial of service attacks through automatic rate filtering or rules to protect legitimate users during the DoS attacks.

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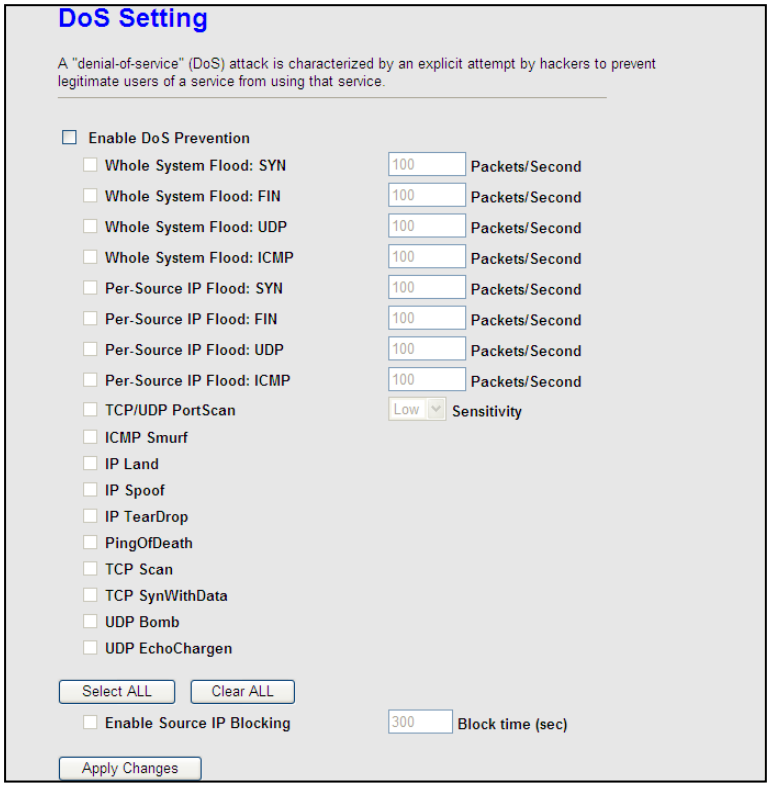
Click **Anti-DoS** in the left pane, and the page shown in the following figure appears. In this page, you can prevent DoS attacks.



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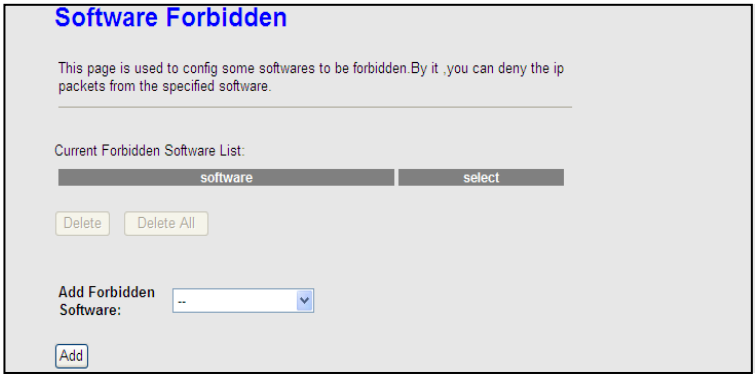
4.5.2.6 Software Forbidden

Click **Software Forbidden** in the left pane, the page shown in the following figure appears. This interface realizes application control. Select an application from the drop-down list to prohibit the application from accessing network resources.



The following table describes the parameters and buttons of this page:

Field	Description
Current Forbidden Software List	A list of currently forbidden applications for accessing the network.
Add Forbidden Software	Select an application to be forbidden from accessing the network.

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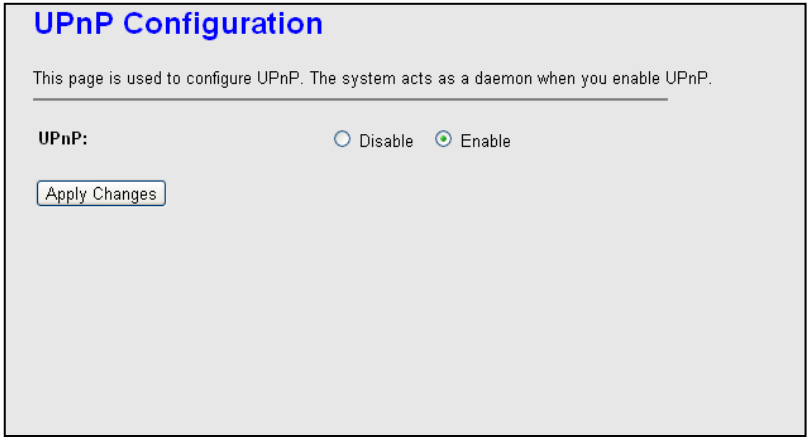
4.5.3 UPnP

Choose **Service > UPnP**, and the page shown in the following figure appears. This page is used to configure UPnP. The system acts as a daemon after you enable it.


UPnP Configuration
This page is used to configure UPnP. The system acts as a daemon when you enable UPnP.
UPnP:
Disable
Enable
Apply Changes

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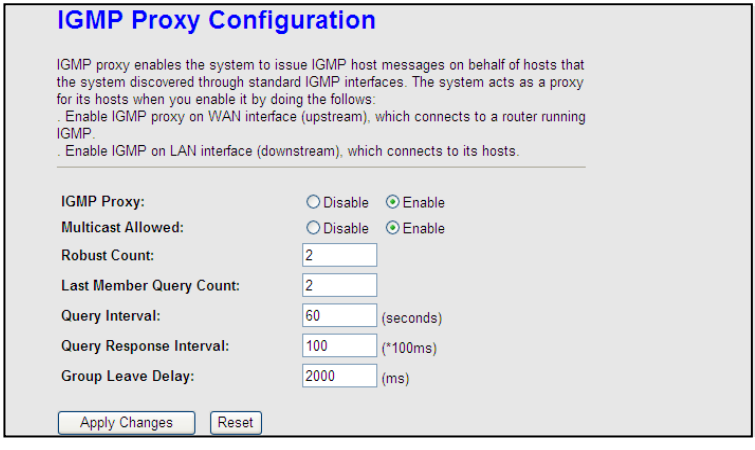
4.5.4 IGMP Proxy

Choose **Service > IGMP Proxy**, and the page shown in the following figure appears. IGMP proxy enables the system to issue IGMP host messages on behalf of hosts that the system discovered through standard IGMP interfaces. The system acts as a proxy for its hosts after you enable it.


IGMP Proxy Configuration
IGMP proxy enables the system to issue IGMP host messages on behalf of hosts that the system discovered through standard IGMP interfaces. The system acts as a proxy for its hosts when you enable it by doing the follows:
. Enable IGMP proxy on WAN interface (upstream), which connects to a router running IGMP.
. Enable IGMP on LAN interface (downstream), which connects to its hosts.
IGMP Proxy: Disable Enable
Multicast Allowed: Disable Enable
Robust Count: 2
Last Member Query Count: 2
Query Interval: 60 (seconds)
Query Response Interval: 100 (*100ms)
Group Leave Delay: 2000 (ms)
Apply Changes
Reset

Field	Description
Robust Count	The Robust Count allows tuning for expected packet loss on a network. By default, the value is set to 2.
Last member query count	This parameter indicates last member query interval. It is the maximum response time in seconds for an IGMP host in reply to group-specific queries. By default, the value is set to 2

Query Interval	This parameter indicates the query interval. It is the interval in seconds (s) between general queries sent by the querier. Default is 60 secs.
Query response Interval	This parameter indicates the query response interval. It is the maximum response time in seconds for an IGMP host in reply to general queries. By default, the value is set to 100.
Group Leave delay	The message is sent when a host leaves a group. Default value is 2000.

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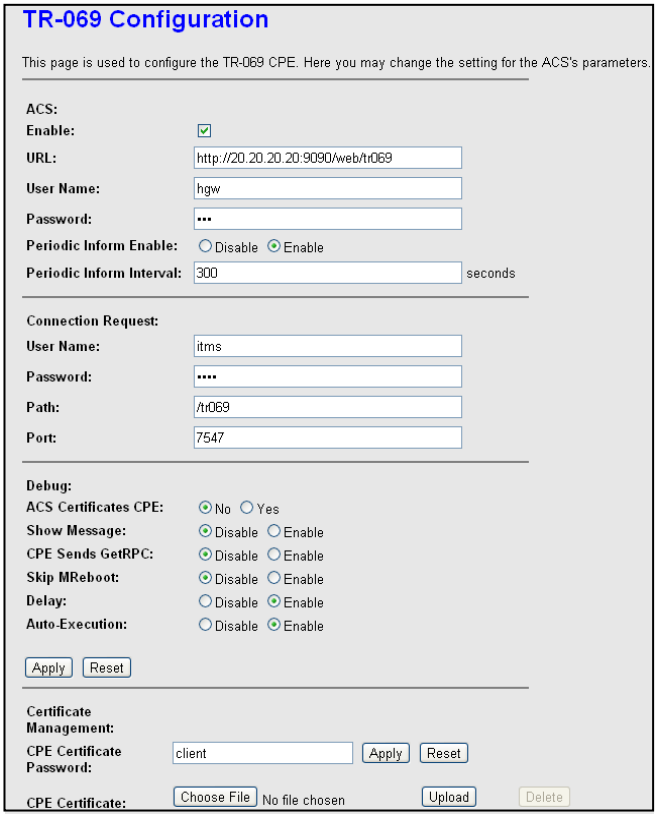
4.5.5 TR-069

TR-069 is a protocol for communication between a CPE and Auto-Configuration Server (ACS).

Choose **Service > TR-069**, and the page shown in the following page appears. In this page, you can configure the TR-069 CPE.



The following table describes the parameters of this page:

Field	Description
ACS	
URL	The URL of the auto-configuration server to connect to.
User Name	The user name for logging in to the ACS.
Password	The password for logging in to the ACS.
Periodic Inform Enable	Select Enable to periodically connect to the ACS to check whether the configuration updates.
Periodic Inform Interval	Specify the amount of time between connections to ACS.
Connection Request	
User Name	The connection username provided by TR-069 service.
Password	The connection password provided by TR-069 service.
Path	Identifies the PATH that the service should use.
Port	Identifies the port number that the service should use.
Debug	
ACS Certificates CPE	As vital data (like user names and passwords) may be transmitted to CPE via TR-069 protocol it is essential to provide secure transport channel and always authenticate the CPE against the ACS. Secure transport and authentication of the ACS identity can easily be provided by usage of HTTPS and verification of ACS certificate.
Show Message	Select Enable to display ACS SOAP messages on the serial console.
CPE sends GetRPC	Select Enable, the router contacts the ACS to obtain configuration updates.

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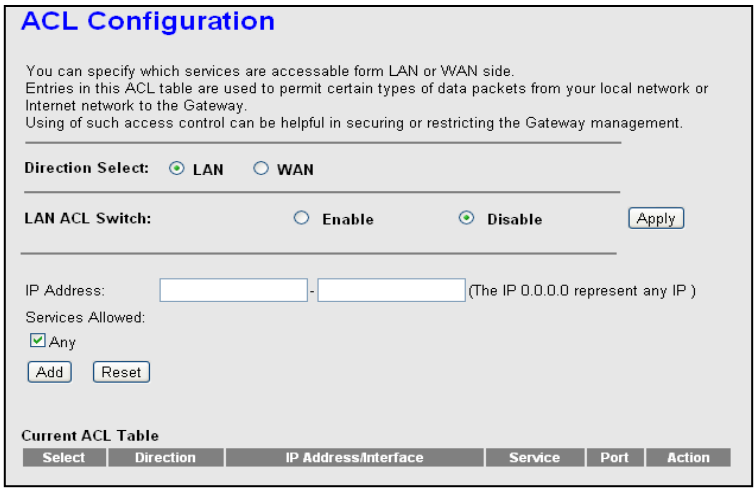
Skip MReboot	Specify whether to send an MReboot event code in the inform message.
Delay	Specify whether to start the TR-069 program after a short delay.
Auto-Execution	Specify whether to automatically start the TR-069 after the router is powered on.

4.5.6 ACL

Choose **Service > ACL**, the page shown in the following figure appears. In this page, you can permit the data packets from LAN or WAN to access the router. You can configure the IP address for Access Control List (ACL). If ACL is enabled, only the effective IP address in the ACL can access the router.

Note:

If you select Enable in ACL capability, ensure that your host IP address is in ACL list before it takes effect.


ACL Configuration
You can specify which services are accessable form LAN or WAN side.
Entries in this ACL table are used to permit certain types of data packets from your local network or Internet network to the Gateway.
Using of such access control can be helpful in securing or restricting the Gateway management.
Direction Select: LAN WAN
LAN ACL Switch: Enable Disable Apply
IP Address: - (The IP 0.0.0.0 represent any IP)
Services Allowed:
Any
Add Reset
Current ACL Table
Select Direction IP Address/Interface Service Port Action

The following table describes the parameters and buttons of this page:

Field	Description
Direction Select	Select the router interface. You can select LAN or WAN. In this example, LAN is selected.
LAN ACL Switch	Select it to enable or disable ACL function.
IP Address	Enter the IP address of the specified interface. Only the IP address that is in the same network segment with the IP address of the specified interface can access the router.
Services Allowed	You can choose the following services from LAN: Web, Telnet, SSH, FTP, TFTP, SNMP, or PING. You can also choose all the services.
Add	After setting the parameters, click it to add an entry to the Current ACL Table.
Reset	Click it to refresh this page.
Current ACL Table	Displays the services that are added and are active.

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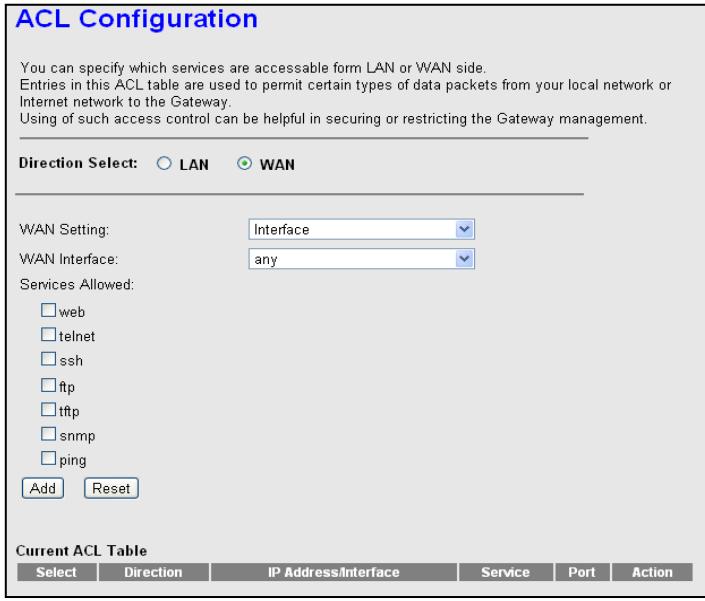
Set direction of the data packets to WAN, the page shown in the following figure appears.


ACL Configuration
You can specify which services are accessable form LAN or WAN side.
Entries in this ACL table are used to permit certain types of data packets from your local network or Internet network to the Gateway.
Using of such access control can be helpful in securing or restricting the Gateway management.
Direction Select: LAN WAN
WAN Setting: Interface
WAN Interface: any
Services Allowed:
web
telnet
ssh
ftp
tftp
snmp
ping
Add Reset
Current ACL Table
Select Direction IP Address/Interface Service Port Action

The following table describes the parameters and buttons of this page:

Field	Description
Direction Select	Select the router interface. You can select LAN or WAN. In this example, WAN is selected.
WAN Setting	You can choose Interface or IP Address. When IP address option is selected only then IP address field will appear.
IP Address	Enter the IP address on the WAN. Only the IP address that is in the same network segment with the IP address on the WAN can access the router.
WAN Interface	Choose the interface that permits data packets from

	WAN to access the router.
Services Allowed	You can choose the following services from WAN: Web, Telnet, SSH, FTP, TFTP, SNMP or PING. You can also choose all the services.
Add	After setting the parameters, click it to add an entry to the Current ACL Table.
Reset	Click it to refresh this page.
Current ACL Table	Displays the services that are added and are active.

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4.6 Advanced

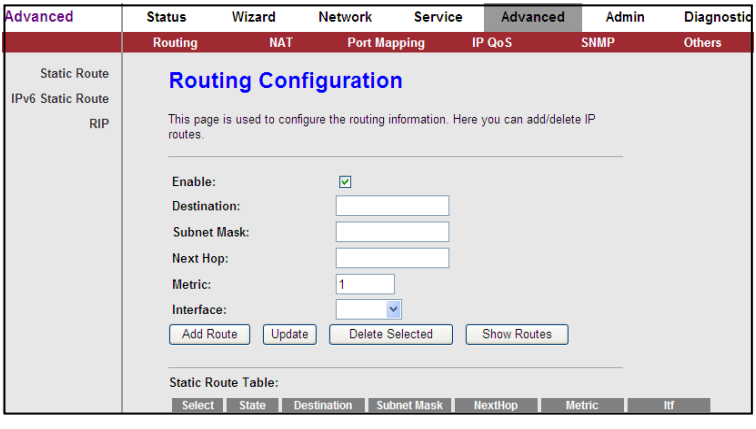
In the navigation bar, click Advanced. In the Advanced page that is displayed contains Bridge setting Routing, NAT, Port Mapping, IP QoS, SNMP and Others.

4.6.1 Routing

Choose **Advance > Routing**, and the page shown in the following figure appears. The page that is displayed contains Static Route, IPv6 Static Route and RIP.

4.6.1.1 Static Route

Click **Static Route** in the left pane, and the page shown in the following figure appears. This page is used to configure the routing information. You can add or delete IP routes.



The following table describes the parameters and buttons of this page:

Field	Description
Enable	Select it to use static IP routes.
Destination	Enter the IP address of the destination device.
Subnet Mask	Enter the subnet mask of the destination device.

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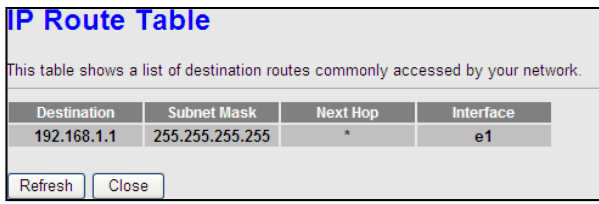
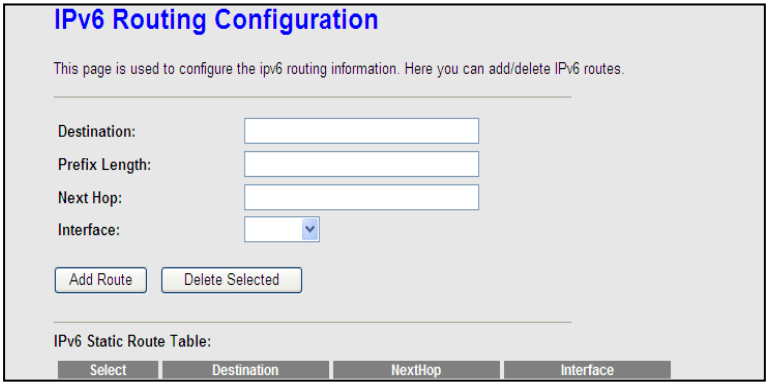
Next Hop	Enter the IP address of the next hop in the IP route to the destination device.
Metric	The metric cost for the destination.
Interface	The interface for the specified route.
Add Route	Click it to add the new static route to the Static Route Table.
Update	Select a row in the Static Route Table and modify the parameters. Then click it to save the settings temporarily.
Delete Selected	Select a row in the Static Route Table and click it to delete the row.
Show Routes	Click it, the IP Route Table appears. You can view a list of destination routes commonly accessed by your network.
Static Route Table	A list of the previously configured static IP routes.

Click **Show Routes**, the page shown in the following figure appears. The table shows a list of destination routes commonly accessed by your network.



4.6.1.2 IPv6 Static Route

Click **IPv6 Static Route** in the left pane, and the page shown in the following figure appears. This page is used to configure the routing information. You can add or delete IP routes.



The following table describes the parameters and buttons of this page.

Field	Description
Destination	Enter the IPv6 address of the destination device.
Prefix Length	Enter the prefix length of the IPv6 address.
Next Hop	Enter the IP address of the next hop in the IPv6 route to the destination address.
Interface	The interface for the specified route.
Add Route	Click it to add the new static route to the IPv6 Static Route Table.
Delete Selected	Select a row in the IPv6 Static Route Table and click it to delete the row.

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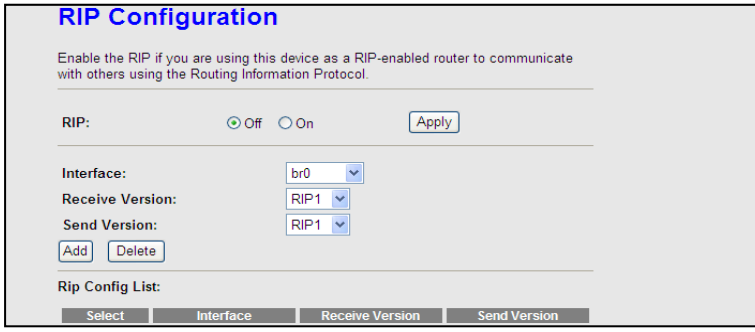
4.6.1.3 RIP

Click **RIP** in the left pane, the page shown in the following figure appears. If you are using this device as a RIP-enabled router to communicate with others using Routing Information Protocol (RIP), enable RIP. This page is used to select the interfaces on your devices that use RIP, and the version of the protocol used.



The following table describes the parameters and buttons of this page:

Field	Description
RIP	Select Enable, the router communicates with other RIP-enabled devices.
Apply	Click it to save the settings of this page.
Interface	Choose the router interface that uses RIP.
Receive Version	Choose the interface version that receives RIP messages. You can choose RIP1, RIP2, or Both. • Choose RIP1 indicates the router receives RIP v1 messages. • Choose RIP2 indicates the router receives RIP v2 messages. • Choose Both indicates the router receives RIP v1 and RIP v2 messages.
Send Version	The working mode for sending RIP messages. You can

	choose RIP1 or RIP2. • Choose RIP1 indicates the router broadcasts RIP1 messages only. • Choose RIP2 indicates the router multicasts RIP2 messages only.
Add	Click it to add the RIP interface to the Rip Config List.
Delete	Select a row in the Rip Config List and click it to delete the row.

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4.6.2 NAT

Choose **Advanced > NAT**, and the page shown in the following figure appears. The page that is displayed contains Setup DMZ, Virtual Server, NAT Forwarding, ALG, NAT Exclude IP, Port Trigger, FTP ALG Port and NAT IP Mapping.

4.6.2.1 Setup DMZ

Demilitarized Zone (DMZ) is used to provide Internet services without sacrificing unauthorized access to its local private network. Typically, the DMZ host contains devices accessible to Internet traffic, such as web (HTTP) servers, FTP servers, SMTP (e-mail) servers and DNS servers.

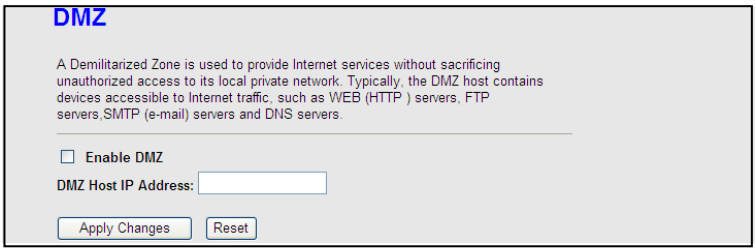
Click **DMZ** in the left pane, the page shown in the following figure appears.

The following steps describe how to configure manual DMZ.

Step 1 Select Enable DMZ to enable this function.

Step 2 Enter an IP address of the DMZ host.

Step 3 Click Apply Changes to save the settings.


DMZ
A Demilitarized Zone is used to provide Internet services without sacrificing unauthorized access to its local private network. Typically, the DMZ host contains devices accessible to Internet traffic, such as WEB (HTTP) servers, FTP servers,SMTP (e-mail) servers and DNS servers.
Enable DMZ
DMZ Host IP Address:
Apply Changes
Reset

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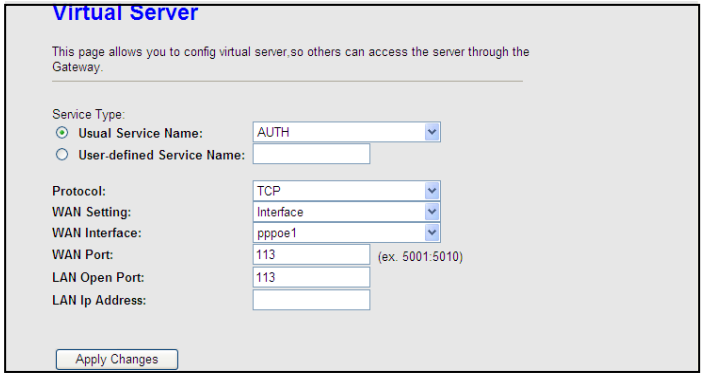
4.6.2.2 Virtual Server

Click **Virtual Server** in the left pane, and the page shown in the following figure appears.



The following table describes the parameters of this page.

Field	Description
Service Type	You can select the common service type, for example, AUTH, DNS or FTP. You can also define a service name. • If you select Usual Service Name, the corresponding parameter has the default settings. • If you select User-defined Service Name, you need to enter the corresponding parameters.
Protocol	Choose the transport layer protocol that the service type uses. You can choose TCP or UDP.
WAN Setting	You can choose Interface or IP Address.
WAN Interface	Choose the WAN interface that will apply virtual server.
WAN Port	Choose the access port on the WAN.
LAN Open Port	Enter the port number of the specified service type.
LAN IP Address	Enter the IP address of the virtual server. It is in the same network segment with LAN IP address of the router.

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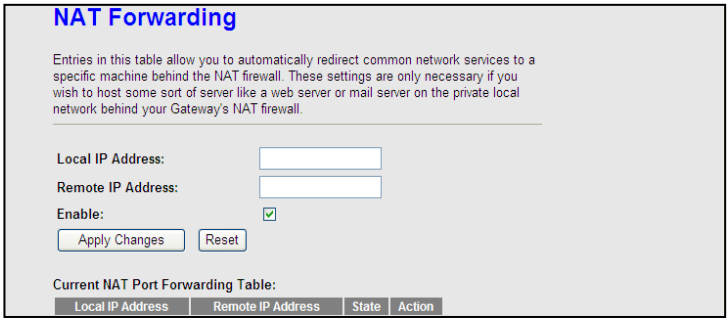
4.6.2.3 NAT Forwarding

Click **NAT Forwarding** in the left pane, the page shown in the following figure appears. Under 1483MER or 1483Routed mode, if NAPT (Network Address Port Translation) is enabled, the Local IP Address is configured as 192.168.1.3 and the Remote IP Address is configured as 202.32.0.2, the PC with the LAN IP 192.168.1.3 will use 202.32.0.2 when it is connected to the Internet via the router without NAPT control.


NAT Forwarding
Entries in this table allow you to automatically redirect common network services to a specific machine behind the NAT firewall. These settings are only necessary if you wish to host some sort of server like a web server or mail server on the private local network behind your Gateway's NAT firewall.
Local IP Address:
Remote IP Address:
Enable:
Apply Changes
Reset
Current NAT Port Forwarding Table:
Local IP Address
Remote IP Address
State
Action

The following table describes the parameters and buttons of this page:

Field	Description
Local IP Address	Input a local IP address.
Remote IP Address	Input a remote IP address
Enable	Enable the current configured rule.
Apply Changes	Submit the configurations.
Reset	Cancel the modification and reconfigure the settings.
Current NAT Port Forwarding Table	Current configuration rule list.

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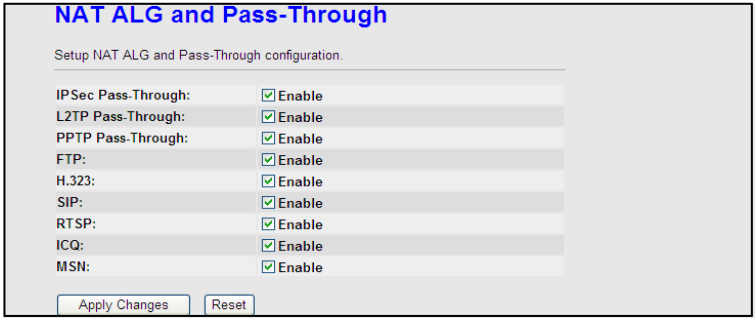
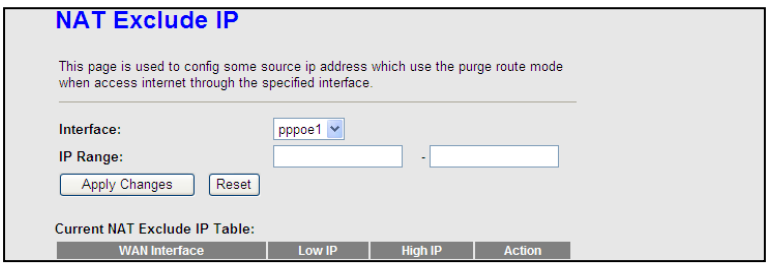
4.6.2.4 ALG

Click **ALG** in the left pane, and the page shown in the following figure appears. Choose the NAT ALG and Pass-Through options, and then click Apply Changes.



4.6.2.5 NAT Exclude IP

Click **NAT** Exclude IP in the left pane, and the page shown in the following figure appears. In the page, you can configure some source IP addresses which use the purge route mode when accessing internet through the specified interface.


NAT Exclude IP
This page is used to config some source ip address which use the purge route mode when access internet through the specified interface.
Interface: pppoe1
IP Range: -
Apply Changes
Reset
Current NAT Exclude IP Table:
WAN Interface
Low IP
High IP
Action

Field	Description
IP range	Enter the IP address range, which do not require NAT translation entries to be permitted by the router.

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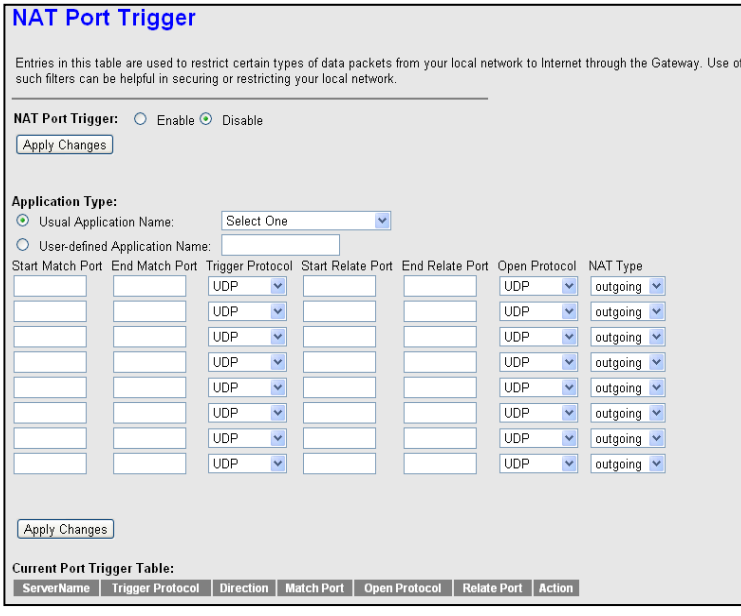
4.6.2.6 Port Trigger

Click **Port Trigger** in the left pane, and the page shown in the following figure appears.


NAT Port Trigger
Entries in this table are used to restrict certain types of data packets from your local network to Internet through the Gateway. Use of such filters can be helpful in securing or restricting your local network.
NAT Port Trigger: Enable Disable
Apply Changes
Application Type:
Usual Application Name: Select One
User-defined Application Name:
Start Match Port End Match Port Trigger Protocol Start Relate Port End Relate Port Open Protocol NAT Type
UDP outgoing
Apply Changes
Current Port Trigger Table:
ServerName Trigger Protocol Direction Match Port Open Protocol Relate Port Action

Click the Usual Application Name drop-down menu to choose the application you want to setup for port triggering. When you have chosen an application the default Trigger settings will populate the table below.

If the application you want to setup isn't listed, click the User-defined Application Name radio button and type in a name for the trigger in the Custom application field. Configure the Start Match Port, End Match Port, Trigger Protocol, Start Relate Port, End Relate Port, Open Protocol and Nat type settings for the port trigger you want to configure.

When you have finished click the **Apply changes** button.

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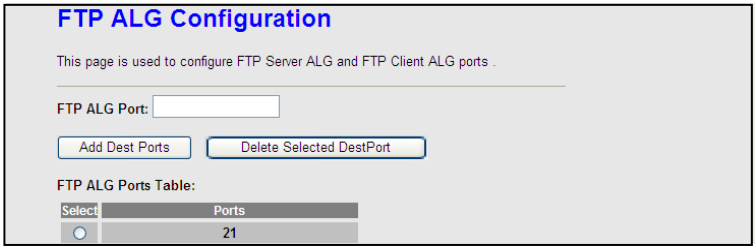
4.6.2.7 FTP ALG Port

Click **FTP ALG Port** in the left pane, the page shown in the following figure appears. The common port for FTP connection is port 21, and a common ALG monitors the TCP port 21 to ensure NAT pass-through of FTP. By enabling this function, when the FTP server connection port is not a port 21, the FTP ALG module will be informed to monitor other TCP ports to ensure NAT pass-through of FTP.



The following table describes the parameters and buttons of this page:

Field	Description
FTP ALG port	Set an FTP ALG port.
Add Dest Ports	Add a port configuration.
Delete Selected DestPort	Delete a selected port configuration from the list.

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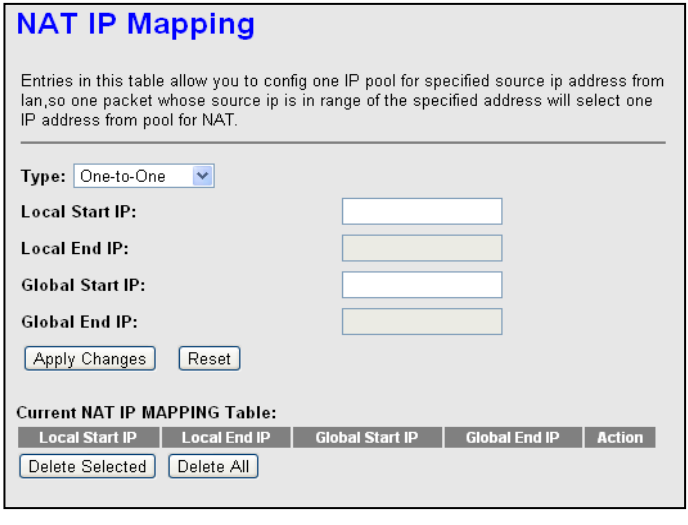
4.6.2.8 NAT IP Mapping

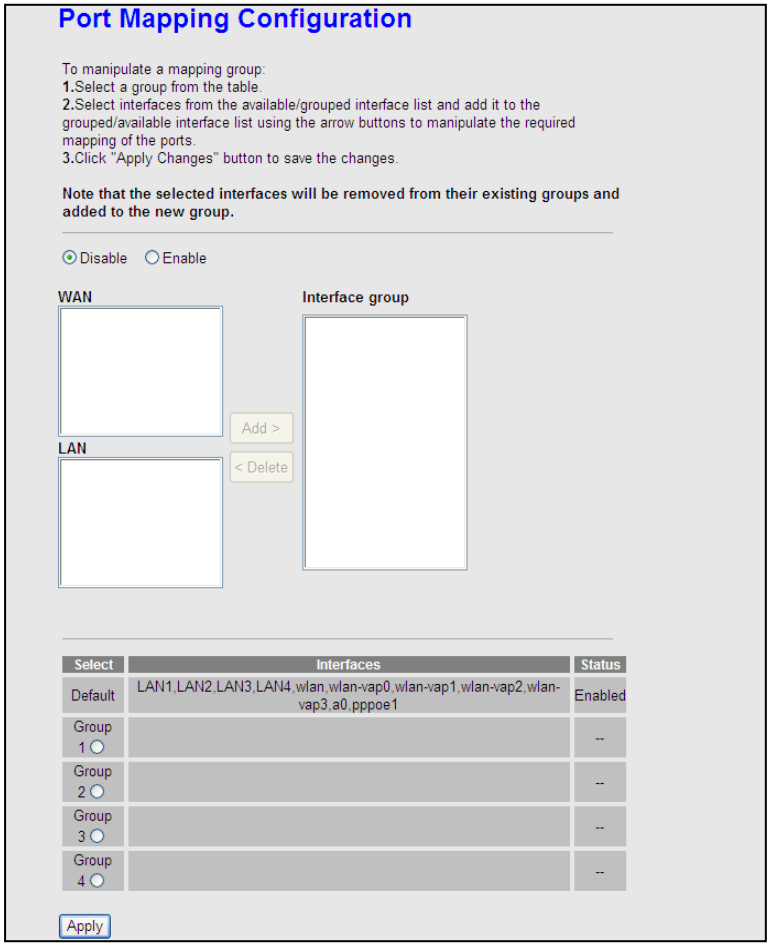
NAT is short for Network Address Translation. The Network Address Translation Settings window allows you to share one WAN IP address for multiple computers on your LAN.

Click **NAT IP** Mapping in the left pane, the page shown in the following figure appears. Entries in this table allow you to configure one IP pool for specified source IP address from LAN, so one packet whose source IP is in range of the specified address will select one IP address from the pool for NAT.


NAT IP Mapping
Entries in this table allow you to config one IP pool for specified source ip address from lan,so one packet whose source ip is in range of the specified address will select one IP address from pool for NAT.
Type: One-to-One
Local Start IP:
Local End IP:
Global Start IP:
Global End IP:
Apply Changes
Reset
Current NAT IP MAPPING Table:
Local Start IP
Local End IP
Global Start IP
Global End IP
Action
Delete Selected
Delete All

4.6.3 Port Mapping

Choose **Advance > Port Mapping**, and the page shown in the following figure appears. In this page, you can bind the WAN interface and the LAN interface to the same group.



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The procedure for manipulating a mapping group is as follows:

Step 1 Select Enable to enable this function.

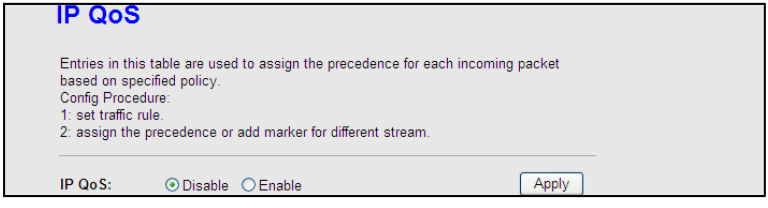
Step 2 Select a group from the table.

Step 3 Select interfaces from the WAN and LAN interface list and add them to the grouped interface list using the arrow buttons to manipulate the required mapping of the ports.

Click **Apply Changes** to save the changes.

4.6.4 IP QoS

Choose **Advance > IP QoS**, and the page shown in the following figure appears. Entries in the QoS Rule List are used to assign the precedence for each incoming packet based on physical LAN port, TCP/UDP port number, source IP address, destination IP address and other information.


IP QoS
Entries in this table are used to assign the precedence for each incoming packet based on specified policy.
Config Procedure:
1: set traffic rule.
2: assign the precedence or add marker for different stream.
IP QoS:
Disable
Enable
Apply

Step 1 Enable IP QoS and click Apply to enable IP QoS function.

Step 2 Click add rule to add a new IP QoS rule.

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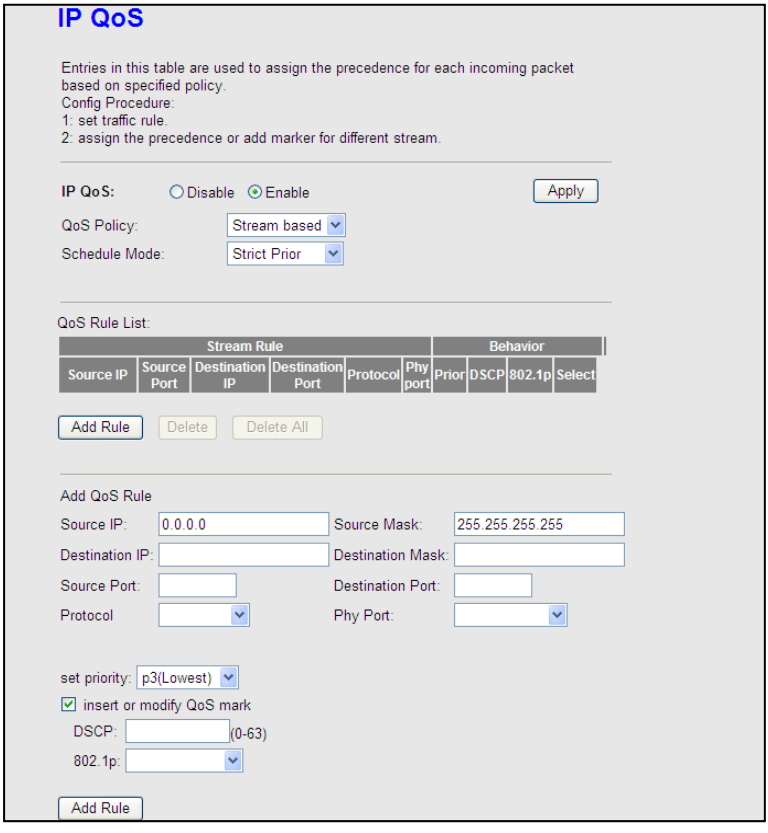
The page shown in the following figure appears.



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The following table describes the parameters and buttons of this page:

Field	Description
IP QoS	Select to enable or disable IP QoS function. You need to enable IP QoS if you want to configure the parameters of this page.
QoS Policy	You can choose stream based, 802.1p based, or DSCP based.
Schedule Mode	You can choose strict prior or WFQ (4:3:2:1).
Source IP	The IP address of the source data packet.
Source Mask	The subnet mask of the source IP address.
Destination IP	The IP address of the destination data packet.
Destination Mask	The subnet mask of the destination IP address.
Source Port	The port of the source data packet.
Destination Port	The port of the destination data packet.
Protocol	The protocol responds to the IP QoS rules. You can choose TCP, UDP, or ICMP.
Phy Port	The LAN interface responds to the IP QoS rules.
Set priority	The priority of the IP QoS rules. P0 is the highest priority and P3 is the lowest.
802.1p	You can choose from 0 to 7.
Delete	Select a row in the QoS rule list and click it to delete the row.
Delete all	Select all the rows in the QoS rule list and click it to delete the rows.

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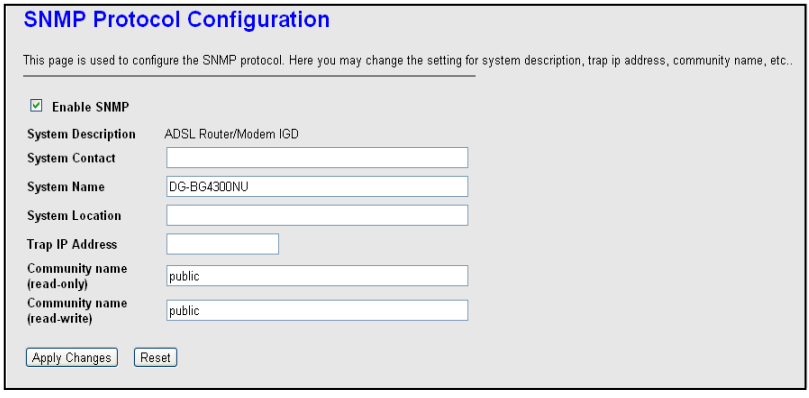
4.6.5 SNMP

This page is used to configure the SNMP protocol. Here you may change the setting for system description, trap ip address, community name, etc.



The following table describes the parameters and buttons of this page:

Field	Description
Enable SNMP	Select it to enable SNMP function. You need to enable SNMP, and then you can configure the parameters of this page.
System Description	System description of the DSL device.
System Contact	Contact person and/or contact information for the DSL device.
System Name	An administratively assigned name for the DSL device.
System Location	The physical location of the DSL device.
Trap IP Address	Enter the trap IP address. The trap information is sent to the corresponding host.
Community Name (Read-only)	The network administrators must use this password to read the information of this router.
Community Name (Read-Write)	The network administrators must use this password to configure the information of the router.

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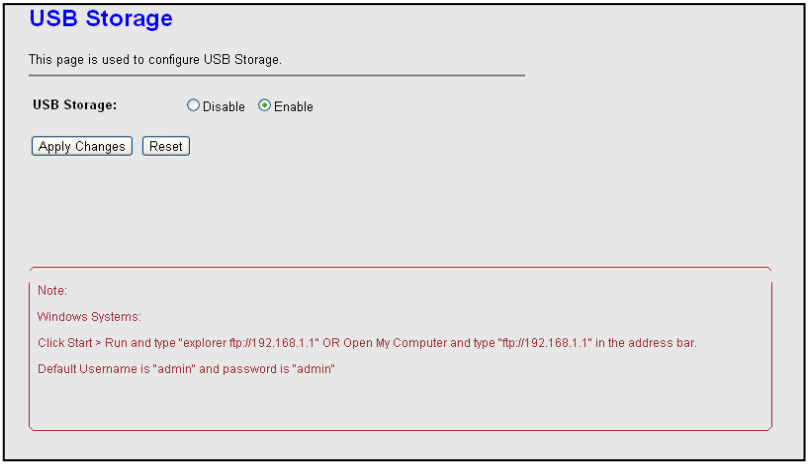
4.6.6 USB Storage

This page allows you to enable the USB Mass Storage Service.

User can plug the USB Pendrive / Portable drive to upload and download the data.
This Storage can also be accessed remotely using the FTP port.


USB Storage
This page is used to configure USB Storage.
USB Storage:
Disable
Enable
Apply Changes
Reset
Note:
Windows Systems:
Click Start > Run and type "explorer ftp://192.168.1.1" OR Open My Computer and type "ftp://192.168.1.1" in the address bar.
Default Username is "admin" and password is "admin"

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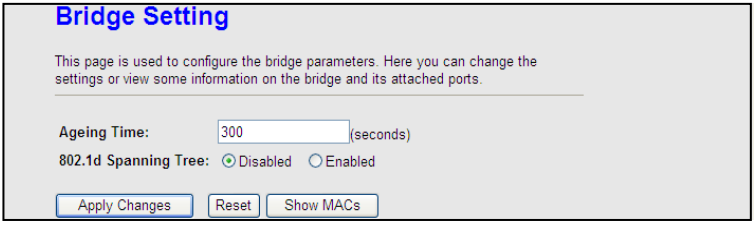
4.6.7 Others

Choose **Advance > Others**, and the page shown in the following figure appears. The page that is displayed contains Bridge Setting, Client Limit, Tunnel and Others.

4.6.7.1 Bridge Setting

Choose **Advance > Bridge Setting**, and the page shown in the following figure appears. This page is used to configure the bridge parameters. You can change the settings or view some information on the bridge and its attached ports.



The following table describes the parameters and button of this page:

Field	Description
Ageing Time	If the host is idle for 300 seconds (default value), its entry is deleted from the bridge table.
802.1d Spanning Tree	You can select Disable or Enable. Select Enable to provide path redundancy while preventing undesirable loops in your network.
Show MACs	Click it to show a list of the learned MAC addresses for the bridge.

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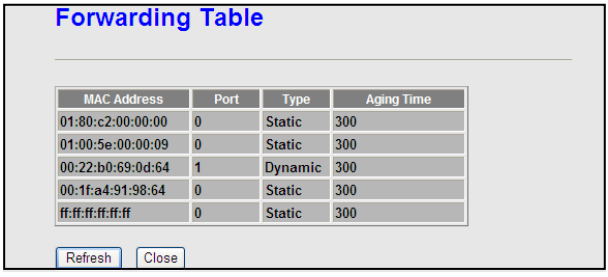
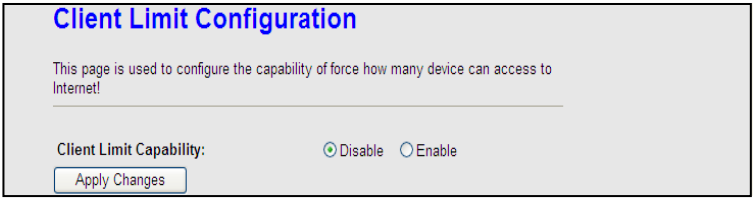
Click **Show MACs**, and the page shown in the following figure appears. This table shows a list of learned MAC addresses for this bridge.



4.6.7.2 Client Limit

Choose **Client Limit** in the left pane, and the page shown in the following figure appears. This page is used to configure the capability of forcing how many devices can access to the Internet.


Client Limit Configuration
This page is used to configure the capability of force how many device can access to Internet!
Client Limit Capability:
Disable
Enable
Apply Changes

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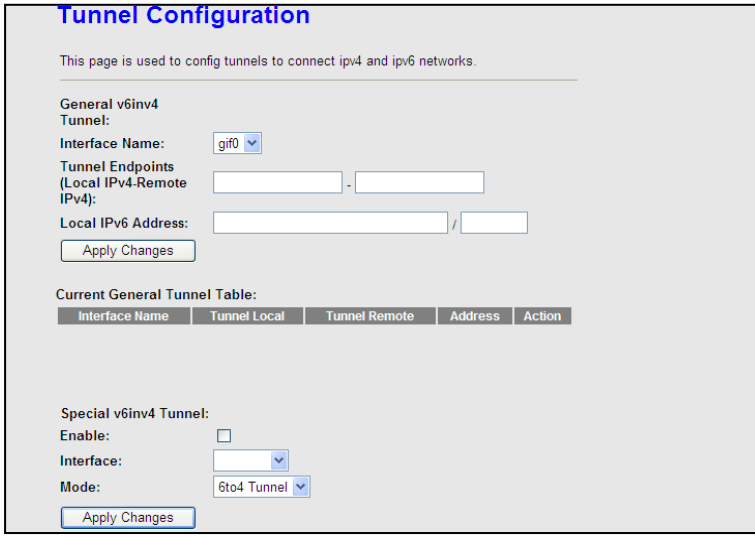
4.6.7.3 Tunnel

Choose **Tunnel** in the left pane, and the page shown in the following figure appears. You may configure tunnels to connect to ipv4 and ipv6 networks.



The following table describes the parameters and button of this page.

Field	Description
General v6inv4 Tunnel	Specify the general v6inv4 tunnel, ipv6 packet is encapsulated in ipv4 packets,
Interface Name	Select the tunnel interface name, user can set 2 v6inv4 tunnel.
Tunnel Endpoints	Specify the ipv4 address for tunnel endpoints.
Local IPv6 Address	Specify the ipv6 address for tunnel local.

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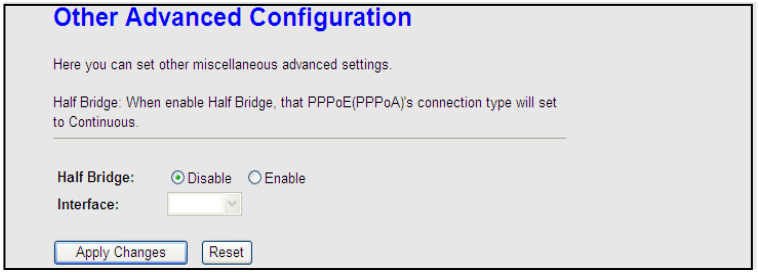
Current General Tunnel Table	Display current general v6inv4 tunnel setting.
Enable	Enable or disable the DS-Lite tunnel.
Interface	Select current wan interface used as tunnel interface.
Mode: 6to4 Tunnel	Enable or disable special tunnel.

4.6.7.4 Others

Choose **Others** in the left pane, and the page shown in the following figure appears. You can enable half bridge so that the PPPoE or PPPoA connection will set to Continuous.



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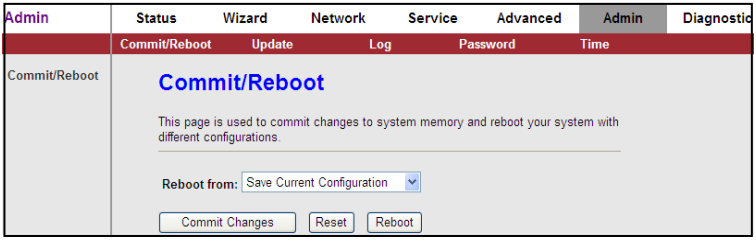
4.7 Admin

In the navigation bar, click Admin. The Admin page that is displayed contains Commit/Reboot, Update, Log, Password and Time.

4.7.1 Commit/Reboot

Choose **Admin > Commit/Reboot**, and the page shown in the following figure appears. You can set the router reset to the default settings or set the router to commit the current settings.



The following table describes the parameters and buttons on this page:

Field	Description
Reboot from	You can choose Save current configuration or Factory default configuration. • Save current configuration: Save the current settings, and then reboot the router. • Factory default configuration: Reset to the factory default settings and reboot the router.
Commit Changes	Click it to apply the changes
Reset	Click it to undo the selection.
Reboot	Click it to reboot the router.

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4.7.2 Update

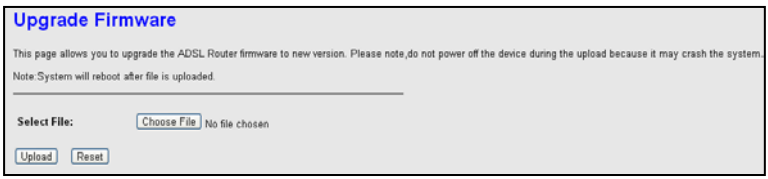
Choose **Admin > Update**. The Update page that is displayed contains Upgrade Firmware and Backup/Restore.

Caution:

Do not turn off the router or press the Reset button while the procedure is in progress.

4.7.2.1 Upgrade Firmware

Click **Upgrade Firmware** in the left pane, and the page shown in the following figure appears. In this page, you can upgrade the firmware of the router.


Upgrade Firmware
This page allows you to upgrade the ADSL Router firmware to new version. Please note,do not power off the device during the upload because it may crash the system.
Note:System will reboot after file is uploaded.
Select File:
Choose File
No file chosen
Upload
Reset

The following table describes the parameters and button of this page:

Field	Description
Select File	Click Browse to select the firmware file.
Upload	After selecting the firmware file, click Upload to start upgrading the firmware file.
Reset	Click it to undo the selection.

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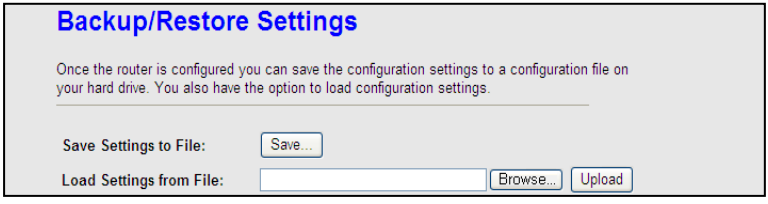
4.7.2.2 Backup/Restore

Click **Backup/Restore** in the left pane, and the page shown in the following figure appears. You can backup the current settings to a file and restore the settings from the file that was saved previously.


Backup/Restore Settings
Once the router is configured you can save the configuration settings to a configuration file on your hard drive. You also have the option to load configuration settings.
Save Settings to File:
Save...
Load Settings from File:
Browse...
Upload

The following table describes the parameters and button of this page:

Field	Description
Save Settings to File	Click it, and select the path. Then you can save the configuration file of the router.
Load Settings from File	Click Browse to select the configuration file.
Upload	After selecting the configuration file of the router, click Upload to start uploading the configuration file of the router.

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4.7.3 Log

Choose **Admin > Log**, and the page shown in the following figure appears. In this page, you can enable or disable system log function and view the system log.

Field	Description
Error	Enabling this option will display the errors such as wrong configuration or password is wrong.
Notice	Enabling this will capture the events such as Web management login , Link is down etc.

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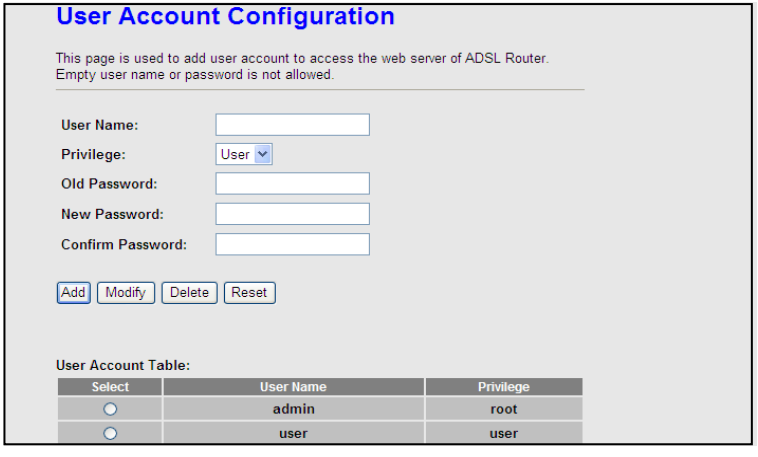
4.7.4 Password

Choose **Admin > Password**, and the page shown in the following figure appears. By default, the user name and password are admin and admin respectively. The common user name and password are user and user respectively.



The following table describes the parameters of this page:

Field	Description
User Name	Choose the user name for accessing the router. You can choose admin or user.
Privilege	Choose the privilege for the account.
Old Password	Enter the old password.
New Password	Enter the new password.
Confirm Password	Enter the new password again.

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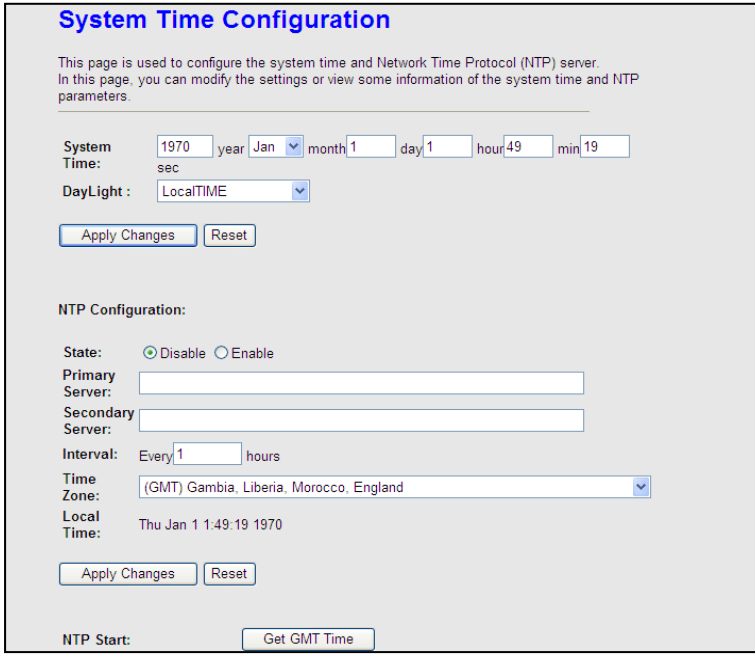
4.7.5 Time

Choose **Admin > Time**, and the page shown in the following figure appears. You can configure the system time manually or get the system time from the time server.



The following table describes the parameters of this page:

Field	Description
System Time	Set the system time manually.
Day Light	Check this option if your location observes daylight saving time. Daylight saving time begins in the southern hemisphere between September–November and ends

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	between March–April. Standard time begins in the southern hemisphere between March–April and ends between September–November. Many countries in the southern hemisphere may observe DST.
NTP Configuration	
State	Select enable or disable NTP function. You need to enable NTP if you want to configure the parameters of NTP.
Primary Server	Set the primary NTP server manually.
Secondary Server	Set the secondary NTP server manually.
Interval	Time when the NTP client will synchronise with NTP server.
Time Zone	Choose the time zone in which area you are from the drop down list.

4.8 Diagnostic

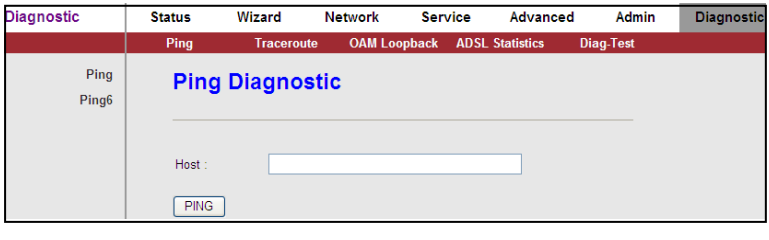
In the navigation bar, click Diagnostic. The Diagnostic page that is displayed contains Ping, Traceroute, OAM Loopback, ADSL Statistics and Diag-Test.

4.8.1 Ping

Choose **Diagnostic > Ping**. The Ping page that is displayed contains Ping and Ping6.

4.8.1.1 Ping

Click **Ping** in the left pane, and the page shown in the following figure appears.



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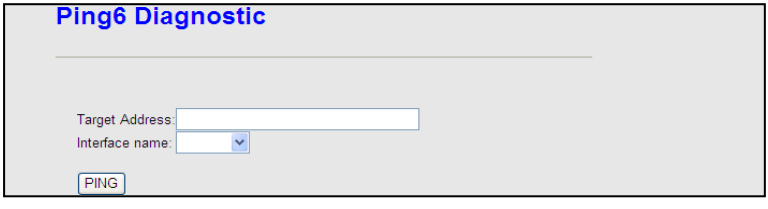
The following table describes the parameter and button of this page:

Field	Description
Host	Enter the valid IP address or domain name.
Ping	Click it to start to Ping.

4.8.1.2 Ping6

Click **Ping6** in the left pane, and the page shown in the following figure appears



The following table describes the parameter and button of this page:

Field	Description
Target Address	Enter an IP address for Ping6 diagnostic.
Interface name	Enter an interface through which the Ping6 diagnostic is performed.

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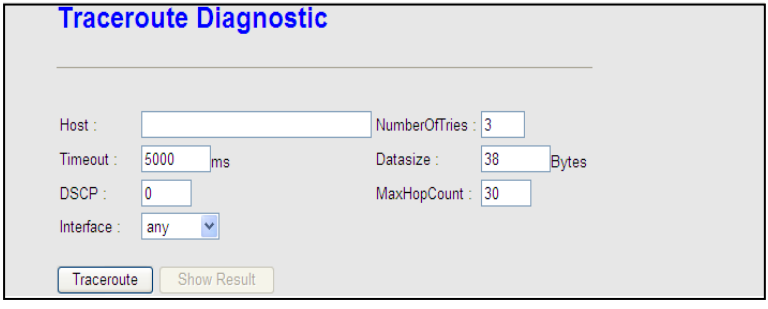
4.8.2 Traceroute

Click **Traceroute** in the left pane, and the following page appears. By Traceroute Diagnostic, you can track the route path of information flow from your computer to the other side host.



The following table describes the parameters and buttons of this page.

Field	Description
Host	Enter the destination host address for diagnosis.
NumberOfTries	Number of repetitions.
Timeout	Put in the timeout value.
Datasize	Packet size.
DSCP	Differentiated Services Code Point, You should set a value between 0-63.
MaxHopCount	Maximum number of routes.
Interface	Select the interface.
Traceroute	Click start traceroute.

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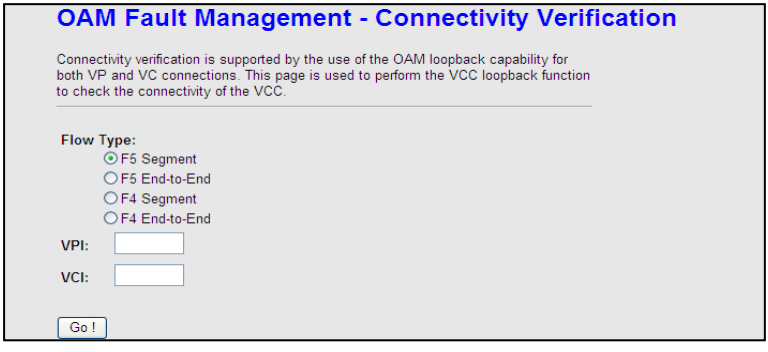
4.8.3 OAM Loopback

Choose **Diagnostic > OAM Loopback**. The page shown in the following figure appears. In this page, you can use VCC loopback function to check the connectivity of the VCC. The ATM loopback test is useful for troubleshooting problems with the DSLAM and ATM network.


OAM Fault Management - Connectivity Verification
Connectivity verification is supported by the use of the OAM loopback capability for both VP and VC connections. This page is used to perform the VCC loopback function to check the connectivity of the VCC.
Flow Type:
F5 Segment
F5 End-to-End
F4 Segment
F4 End-to-End
VPI:
VCI:
Go !

Click Go! to start testing.

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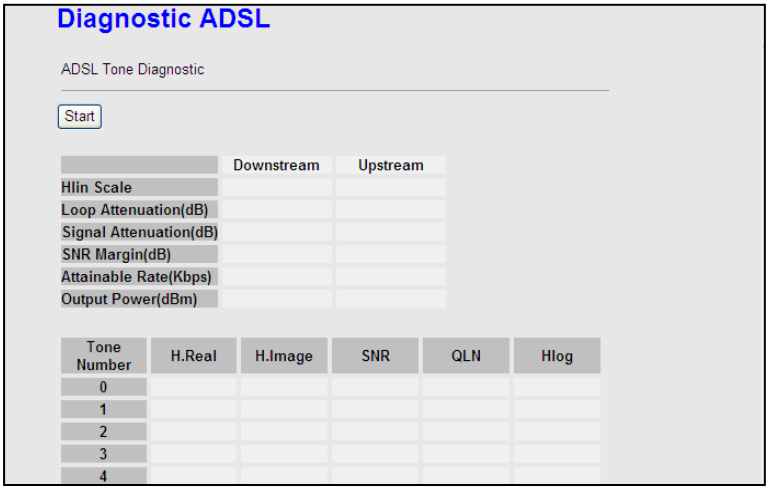
4.8.4 ADSL Statistics

Choose **Diagnostic > ADSL Statistics**. The page shown in the following figure appears. It is used for ADSL tone diagnostics.



Click **Start** to start ADSL tone diagnostics.

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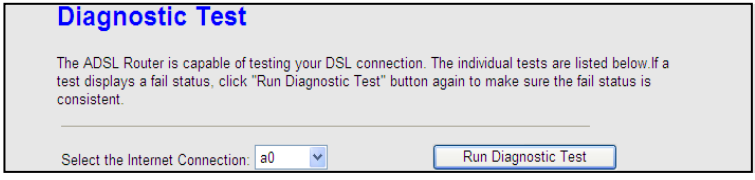
4.8.5 Diag-Test

Choose **Diagnostic > Diag-Test**, the page shown in the following figure appears. In this page, you can test the DSL connection. You can also view the LAN status connection and ADSL connection.


Diagnostic Test
The ADSL Router is capable of testing your DSL connection. The individual tests are listed below.If a test displays a fail status, click "Run Diagnostic Test" button again to make sure the fail status is consistent.
Select the Internet Connection:
a0
Run Diagnostic Test

Click **Run Diagnostic Test** to start testing.

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5 Appendix

5.1 Technical Specifications

Flash: 2MB

SDRAM: 16MB

Antennas: Two fixed dipole 5dBi antennas

Network Interface: 1 x RJ11 interface for ADSL Line

4 x 10/100 Mbps UTP LAN ports

Wireless Features Standard: IEEE802.11b/g/n

Frequency band: 2.400~2.4835GHz

Wireless output power: 11B: 16±1.5dBm

11G: 15±1.5dBm

11N: 14±1.5dBm

Wireless security: WEP (64/128 bit), WPA-PSK (TKIP/AES), WPA2-PSK (TKIP/AES), WPA/WPA2 Mixed Mode, WPS (PBC/PIN Mechanism), Disable SSID broadcast

Wireless data rate: 802.11b: 1/2/5.5/11Mbps

802.11g: 6/9/12/24/36/48/54Mbps

802.11n (20MHz): up to 144 Mbps

802.11n (40MHz): up to 300 Mbps

Status LEDs: Power

WLAN

DSL

USB

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Internet

WPS

LAN ports 1~4

Environment Requirements: Operating Temperature 0ºC—40ºC

Storage Temperature -20ºC—70ºC

Operating Humidity 10%—95%, non-condensing

Storage Humidity 5%—95%, non-condensing

Power Supply: 12 V DC, 1A Switching power adapter

Physical Dimension: Net Dimensions (L x W x H): 181 x 124 x 29 mm

Gross Dimensions (L x W x H): 268 x 166 x 82 mm

Net Weight: 215 g

Gross Weight: 609 g

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5.2 Troubleshooting

If you encounter any problem when you are using this wireless broadband router, don't panic. Before you call your dealer of purchase for help, please check this troubleshooting section, the solution of your problem could be very simple, and you can solve the problem yourself.

Scenario	Solution
All the indicators are off.	• Check the connection between the power adapter and the power socket. • Check whether the power switch is turned on.
No proper LAN connection indication.	Check the following: • The connection between the device and the PC, the hub, or the switch. • The running status of the computer, hub, or switch. • The cables connecting the device and other devices. Use a cross-over cable to connect the device to a computer. Use a straight-through cable to connect the device to a hub or a switch.
ADSL indicator is not on.	• Check the connection between the ADSL interface of the device and the socket.
Unable to access Internet even when the ADSL indicator is on.	Ensure that the following information is entered correctly. • VPI and VCI • User name and password
Cannot access the web page.	Choose Start > Run from the desktop. Enter Ping 192.168.1.1 (the default IP address of the device) in the DOS window. If the web configuration page still cannot be accessed, check the following configuration. • The type of network cable • The connection between the device and the computer • The TCP/IP properties of the network card of the computer

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5.3 Glossary

Default Gateway (Router): Every non-router IP device needs to configure a default gateway IP address. When the device sends out an IP packet, if the destination is not on the same network, the device has to send the packet to its default gateway, which will then send it to the destination.

DHCP: Dynamic Host Configuration Protocol. This protocol automatically gives every computer on your home network an IP address.

DNS Server IP Address: DNS stands for Domain Name System, which allows Internet servers to have a domain name (such as www.Broadbandrouter.com) and one or more IP addresses (such as 192.34.45.8). A DNS server keeps a database of Internet servers and their respective domain names and IP addresses, so that when a domain name is requested (as in typing "Broadbandrouter.com" into your Internet browser), the user is sent to the proper IP address. The DNS server IP address used by the computers on your home network is the location of the DNS server your ISP has assigned to you.

DSL Modem: DSL stands for Digital Subscriber Line. A DSL modem uses your existing phone lines to transmit data at high speeds.

Ethernet: A standard for computer networks. Ethernet networks are connected by special cables and hubs, and move data around at up to 10/100 million bits per second (Mbps).

Idle Timeout: Idle Timeout is designed so that after there is no traffic on the Internet for a pre-configured amount of time, the connection will automatically get disconnected.

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IP Address and Network (Subnet) Mask: IP stands for Internet Protocol. An IP address consists of a series of four numbers separated by periods, which identifies a single, unique Internet computer host in an IP network. Example: 192.168.2.1. It consists of 2 portions: the IP network address and the host identifier.

The IP address is a 32-bit binary pattern, which can be represented as four cascaded decimal numbers separated by ".": aaa.aaa.aaa.aaa, where each "aaa" can be anything from 000 to 255, or as four cascaded binary numbers separated by ".": bbbbbbbb.bbbbbbbb.bbbbbbbb.bbbbbbbb, where each "b" can either be 0 or 1.

A network mask is also a 32-bit binary pattern, and consists of consecutive leading

1's followed by consecutive trailing 0's, such as

11111111.11111111.11111111.00000000. Therefore sometimes a network mask can also be described simply as "x" number of leading 1's.

When both are represented side by side in their binary forms, all bits in the IP address that correspond to 1's in the network mask become part of the IP network address, and the remaining bits correspond to the host ID.

For example, if the IP address for a device is, in its binary form,

11011001.10110000.10010000.00000111, and if its network mask is,

11111111.11111111.11110000.00000000

It means the device's network address is

11011001.10110000.10010000.00000000, and its host ID is,

00000000.00000000.00000000.00000111.

This is a convenient and efficient method for routers to route IP packets to their destination.

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ISP Gateway Address: (see ISP for definition). The ISP Gateway Address is an IP address for the Internet router located at the ISP's office.

ISP: Internet Service Provider. An ISP is a business that provides connectivity to the Internet for individuals and other businesses or organizations.

LAN: Local Area Network. A LAN is a group of computers and devices connected together in a relatively small area (such as home or office). Your home network is considered a LAN.

MAC Address: MAC stands for Media Access Control. A MAC address is the hardware address of a device connected to a network. MAC address is a unique identifier for a device with an Ethernet interface. It is comprised of two parts: 3 bytes of data that correspond to the Manufacturer ID (unique for each manufacturer), plus 3 bytes that are often used as the product's serial number.

NAT: Network Address Translation. This process allows all the computers on your home network to use one IP address. Using the broadband router's NAT capability, you can access Internet from any computer on your home network without having to purchase more IP addresses from your ISP.

Port: Network Clients (LAN PC) uses port numbers to distinguish one network application/protocol over another. Below is a list of common applications and protocol/port numbers:

Application	Protocol	Port Number
Telnet	TCP	23
FTP	TCP	21
SMTP	TCP	25
POP3	TCP	110
H.323	TCP	1720
SNMP	UDP	161
SNMP Trap	UDP	162
HTTP	TCP	80
PPTP	TCP	1723
PC Anywhere	TCP	5631
PC Anywhere	UDP	5632

PPPoE: (Point-to-Point Protocol over Ethernet.) Point-to-Point Protocol is a secure data transmission method originally created for dial-up connections; PPPoE is for Ethernet connections. PPPoE relies on two widely accepted standards, Ethernet and the Point-to-Point Protocol. It is a communications protocol for transmitting information over Ethernet between different manufacturers.

Protocol: A protocol is a set of rules for interaction agreed upon between multiple parties so that when they interface with each other based on such a protocol, the interpretation of their behavior is well defined and can be made objectively, without confusion or misunderstanding.

Router: A router is an intelligent network device that forwards packets between different networks based on network layer address information such as IP addresses.

Subnet Mask: A subnet mask, which may be a part of the TCP/IP information provided by your ISP, is a set of four numbers (e.g. 255.255.255.0) configured like an IP address. It is used to create IP address numbers used only within a particular network (as opposed to valid IP address numbers recognized by the Internet, which must be assigned by InterNIC).

TCP/IP, UDP: Transmission Control Protocol/Internet Protocol (TCP/IP) and Unreliable Datagram Protocol (UDP). TCP/IP is the standard protocol for data transmission over the Internet. Both TCP and UDP are transport layer protocols. TCP performs proper error detection and error recovery, and thus is reliable. UDP on the other hand is not reliable. They both run on top of the IP (Internet Protocol), a network layer protocol.

WAN: Wide Area Network. A network that connects computers located in geographically separate areas (e.g. different buildings, cities, countries). The Internet is a wide area network.

Web-based management Graphical User Interface (GUI): Many devices support a graphical user interface that is based on the web browser. This means the user can use the familiar Netscape or Microsoft Internet Explorer to Control/configure or monitor the device being managed.

This product comes with Life time warranty. For further details about warranty policy and Product Registration, please visit support section of www.digisol.com